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C O N S E R V A T I O N I N M O N S O O N A S I A

The Conservation of Immovable Cultural Property
in Southeast Asia

EDINBURGH COLLEGE OF ART
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VOLUME 2 OF 3

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1. MONSOON ASIAN SETTING

1. KEY FACTS

Area	:	181,300 sq. km.
Capital City	:	Phnom Penh (pop. NA).
Land Use	:	16% cultivated, 74% forest, 3.2% pasture.
Population	:	7.88 million (estimate).
Density	:	45 per sq. km.
Growth Rate	:	NA
Life Expectancy	:	NA
Per Capita GNP	:	US70 dlrs. (1974).
System of Government	:	Democratic People's Republic.

2. PHYSICAL SETTING

Situation

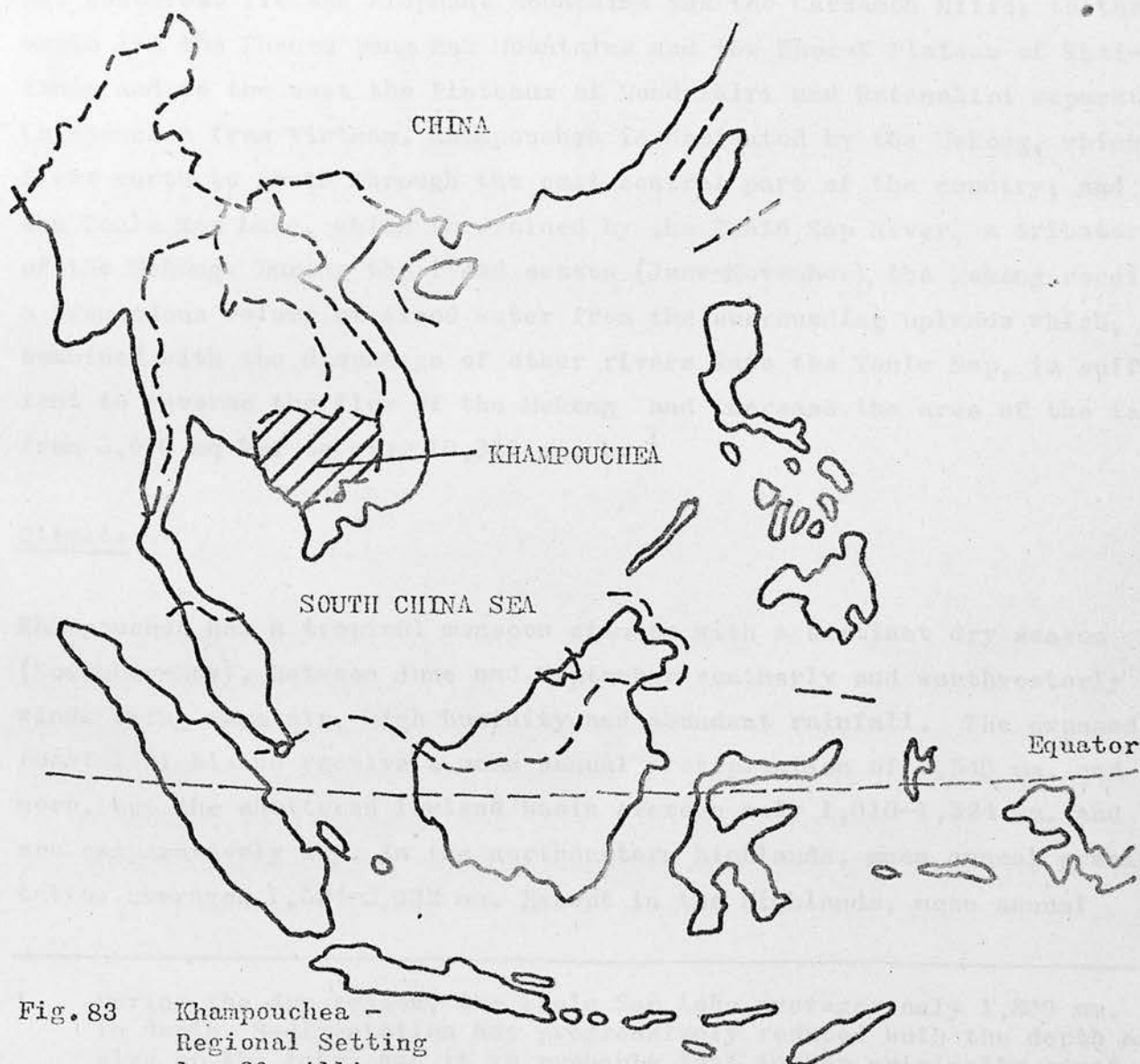


Fig. 83 Khampouchea -
Regional Setting
1 : 30 million.

Situation (cont.)

Khampouchea is situated between latitudes 10 30 N and 14 50 N. The capital city, Phnom Penh (pop. NA), is situated at latitude 11 33 N. The total land area of the country is 181,300 sq. km., divided into seventeen provinces : Kompong Thom, Kompong Cham, Battambang, Kampot, Siem Reap, Kompong Chhang, Kompong Speu, Takeo, Kratie, Stung Treng, Svay Rieng, Prey Veng, Pursat, Kandal, Ratanakiri, Mondolkiri and Koh Kong. It is bounded by Thailand (west and north), Laos (east and southeast), and the Gulf of Siam (southwest).

Geology, Relief and Drainage

Geologically, Khampouchea comprises a large shallow basin, lying mostly below 105 m. and consisting of sandstone overlaid with basaltic lava and ancient alluvial deposits, surrounded on almost every side, except the southeast where it merges with the massive delta of the Mekong, by ranges of young fold mountains varying between 760 m. and 914 m. To the south and southwest lie the Elephant Mountains and the Cardamon Hills; to the north lie the Phanom Dong Rak Mountains and the Khorat Plateau of Thailand; and to the east the Plateaux of Mondalkiri and Ratanakiri separating Khampouchea from Vietnam. Khampouchea is dominated by the Mekong, which flows north to south through the east-central part of the country; and the Tonle Sap Lake, which is drained by the Tonle Sap River, a tributary of the Mekong. During the flood season (June-November), the Mekong receives a tremendous volume of flood water from the surrounding uplands which, combined with the discharge of other rivers into the Tonle Sap, is sufficient to reverse the flow of the Mekong and increase the area of the lake from 3,000 sq km. to over 10,000 sq. km.¹

Climate

Khampouchea has a tropical monsoon climate with a distinct dry season (November-May). Between June and September southerly and southwesterly winds bring warm air, high humidity and abundant rainfall. The exposed coastal highlands receive a mean annual precipitation of 2,540 mm. and more, but the sheltered lowland basin averages only 1,016-1,524 mm. and are comparatively dry. In the northeastern highlands, mean annual precipitation averages 1,524-2,032 mm. Except in the highlands, mean annual

1. During the dry season, the Tonle Sap Lake averages only 1,800 mm. in depth. Sedimentation has progressively reduced both the depth and size of the lake, and it is probable that Angkor originally stood on the shore of the lake.

Climate (cont.)

temperature averages 27°C. However, during the hottest months of the year (April and May), mean monthly temperatures average 29°C. Evaporation is high during the dry season.

Earthquake and Volcanic Activity

Khampouchea is situated to the east of the 'trans-Asiatic' seismic zone and is not normally subject to earthquake or volcanic activity.

Vegetation

In highland areas, where mean annual precipitation exceeds 1,500 mm., tropical evergreen forest predominates, but in the drier lowland areas this gradually gives way to deciduous forest and savanna. The driest areas support only scrub, known locally as 'tranh'. Isolated coastal areas are fringed with mangrove sea-swamp forest.

Land Use

Almost three-quarters of the land area of Khampouchea is forested (74 per cent.). The remainder is largely given over to paddy and plantation crops, such as rubber, cotton, tobacco and pepper.

3. CULTURAL SETTING

Population

The population of Khampouchea is estimated to be 7.88 million, of which the overwhelming majority (85 per cent.) are Khmers. The remainder comprise Chinese, Vietnamese, Chams, Thais, Indians and small numbers of hill peoples. Up until the fall of the Government of the Khmer Republic in April 1975, approximately 89 per cent. of the population lived in rural areas in the Mekong and Tonle Sap basins. However, as an instrument of government policy, the Khmer Rouge drove the population of Phnom Penh and other former centres of government support into the countryside after April 1975, and the present situation remains confused. The average population density is 45 per sq. km.

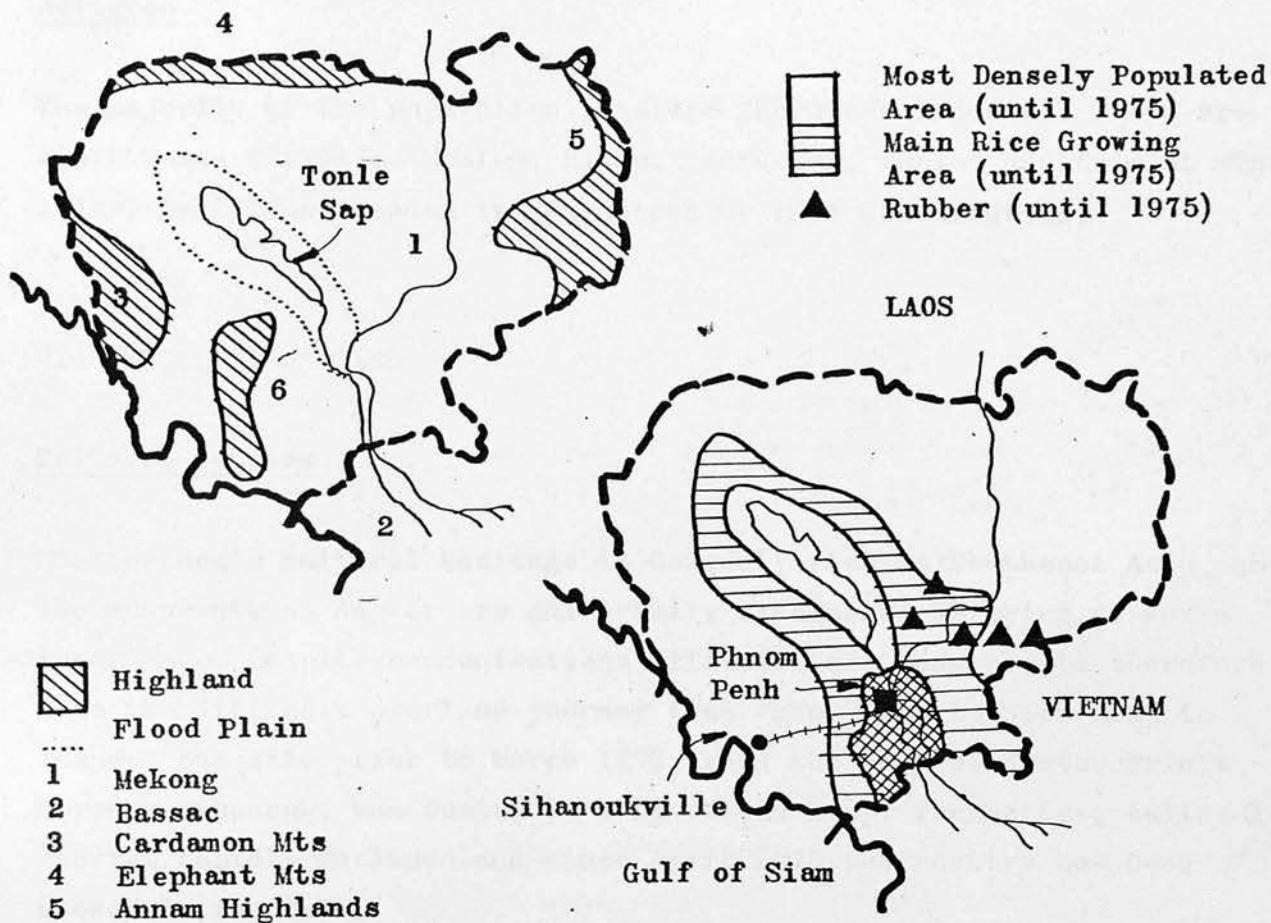


Fig. 84 Khampouchea - Build (L)

Fig. 85 Khampouchea - Land Use (Until 1975)(R)

Language

The official language of Khampeouchea is Khmer. Prior to the fall of the Government of the Khmer Republic in 1975, French was the second language.

Religion

The majority of the population practice Theravada Buddhism. There are small Roman Catholic, Moslem, Hindu, Confucian, Taoist and Animist minorities. Religious freedom is guaranteed by 1976 Constitution.

4. ECONOMIC SETTING

Cultural Tourism

Khampeouchea's cultural heritage is uniquely rich in Southeast Asia, and the monuments at Angkor are universally recognised as being of world importance. Despite communications difficulties, many people therefore made the difficult overland journey from Phnom Penh to Siem Reap to inspect the site prior to March 1970, when the Head of State, Prince Norodom Sihanouk, was ousted in a bloodless coup. Thereafter, cultural tourism rapidly declined and since April 1975 the country has been closed to tourists.

FIG. 86 KHAMPEOUCHEA - TOURISTS AND TOURIST RECEIPTS (1968-71)

	1968	1969	1970	1971	
Tourists	35.5	45.6	21.1	8.9	('000)
Receipts	2	4	1	NA	(US million dollars)

5. POLITICAL SETTING

Constitution and Government

In December 1975, the Third National Congress of the National United Front of Cambodia (NUFC) unveiled the present Constitution which abolishes the monarchy and all private property. A three-member State Praesidium headed by the President represents the State at home and overseas. The new Constitution was affirmed on 5 January 1976 according to an official communique broadcast the same day from Phnom Penh.

2. HISTORICAL BACKGROUND

1. EARLY HISTORY

The rapid rise to greatness and subsequent dissolution of the Khmer civilisation is one of the most remarkable and dramatic episodes in the history of Southeast Asia. From a relatively insignificant group of settlements, scattered along the margins of the lower Mekong, between Chaudoc and Phnom Penh, at the beginning of the Christian Era, the Khmer kingdom emerged as the pre-eminent sea-power in the region by the third century A.D. According to Chinese sources, the Khmer kingdom, known as Fu-nan, was ruled over by Queen Liu-Yeh ('Willow-Leaf') until the first century A.D., when the peace of the small matriarchal kingdom was shattered by an invasion from Mo-fu led by a certain Houen-Chen.¹ Houen-Chen, who is more widely known as Kaundinya I, subdued and subsequently married Liu-Yeh, who henceforward became known as Soma, and founded the Kaundinya-Soma Dynasty (?-400 A.D.). The capital of Fu-nan, Vyadhapura (the 'City of Hunters'), was situated at Ba Phnom. During the second century A.D., Fu-nan grew steadily, if not altogether peacefully, until, at the beginning of the third century A.D., King P'an P'an, the reigning monarch, appointed General Fan Che Man to the post of Prime Minister. Fan Che Man is regarded as the founder of the Fu-nan Empire. As the successor to King P'an P'an, he took as his title 'Great King of Fu-nan' and attacked and conquered the neighbouring kingdoms of Champa, Siam and the Malay Peninsula. At the time of his death (c.225 A.D.), Fan Che Man reigned over an empire that stretched from the Gulf of Tonkin on the east, to the Bay of Bengal on the west, and as far south as Johore. However, it was not until almost two decades later that the existence and importance of Fu-nan was recognised by her neighbours, India and China, diplomatic relations being established with the former in 240 A.D. and the latter in 243 A.D. In 400 A.D. a Brahmin, calling himself Kaundinya II and claiming descent from the old Kaundinya-Soma Dynasty, seized the throne and began the process of 'Indianisation' that characterises the period of the Second Kaundinya Dynasty (400-550 A.D.). Thereafter, the kings of Fu-nan adopted the Pallava patronymic '-varman', meaning 'protector'.² Like his predecessors, Kaundinya II sent ambassadors to China, and this policy of maintaining friendly relations with China was continued by his successors, the most famous of whom, Jayavarman (c.478-514 A.D.), was honoured with the title 'General of the Pacified South' in 503 A.D. Thus, at the begin-

1. Mo-fu is thought to be either India or the Malay Peninsula;

2. The Pallava Dynasty (600-750 A.D.) inherited the ancient domains of the Andhras of southern India.

ning of the sixth century A.D., Fu-nan seemed to be on the threshold of achieving lasting greatness. No power in Southeast Asia at that time could compare with her in extent and influence, and her control of the Malacca Strait effectively enabled her to dominate the India-China trade. However, within four decades Fu-nan was to be reduced to a state of vassalage as a result of a disputed succession to the throne and internal division between contending factions. After the death of Rudravarman in 539 A.D., there was a serious dispute between the various claimants to the throne and during the ensuing chaos, Bhavavarman, the young ruler of Chen-la, a vassal state of Fu-nan centred on the Bassac region (now part of Laos), seized the throne for himself. From 540 to 627 A.D. when Chen-la annexed the last surviving fragment of Fu-nan, Bhavavarman and his successors maintained the name of Fu-nan out of regard for the reverence with which the former empire was held throughout the region of Southeast Asia. Thereafter, we hear no more of Fu-nan, although the subsequent founders of the Sailendra Dynasty (732-860 A.D.) of East Java claimed to be the descendants of the vanquished kings of Fu-nan, the last of whom fled to Palembang and succeeded to the throne of the Kingdom of Sri Vijaya in 850 A.D.

In contrast to Fu-nan, which was a maritime-power, Chen-la was a land-power, whose tough mountain people called themselves the 'Kambujas', after Kambu the legendary founder, with the nymph Mera, of the Cambodian Solar Dynasty. Under Ishanavarman (616-635 A.D.), the capital of Chen-la was transferred to Sambor and thence to Sambor Prei Kuk, and the centre of power gradually moved northwards from the head of the delta of the Mekong to the eastern part of the central lowland Cambodian Plain. After a century of confusion, Chen-la fell to the Sailendra King Indra (782-812 A.D.) in c.782, and remained a vassal state of the East Javanese dynasty until 802 A.D., when King Jayavarman II declared himself to be 'King of Cambodia' and established his capital near Angkor.

Jayavarman II initiated a new religious cult, claiming that, through the medium of a Brahmin priest, divinity had been bestowed upon him by Shiva, the Hindu god of creation and destruction. Thus he became the spiritual axis of the kingdom, a god-king who communicated with the gods. The symbol of the god-king, or 'devaraja', was the 'lingam', the phallic manifestation of Shiva. At Roluos, near to the east bank of the Tonle Sap Lake, Jayavarman II built the first temple-mountain, symbol of Mount Meru, the Hindu City of the Gods, that subsequently became the principal building

type of the Khmers,¹ and laid the foundations of the vast hydraulic engineering works that subsequently enabled the Khmers to break the immutable monsoon cycle and transform the lower reaches of the Mekong into the rice-bowl of Southeast Asia. At Roluos, and later at Angkor, successive monarchs constructed huge artificial lakes, known as 'barays', canals and irrigation channels, that enabled them to store the water that fell as torrential rain during the Monsoon (June-September) for redistribution during times of shortage. For example, the Lolei Baray at Roluos, which is the earliest known example, has a storage capacity of 6 million cubic metres; the great Eastern Baray, built by King Yaso-varman I (889-910 A.D.) in c.900 A.D., has a storage capacity of more than 30 million cubic metres; and the greatest of all, the Western Baray, built by Udayadityavarman II (1050-1066 A.D.) in c.1050 A.D., has a storage capacity of more than 40 million cubic metres. Such storage capacity enabled the Khmers to triple crop the Cambodian Plain and produce an estimated 150,000 metric tons of rice per annum. Ultimately, the system of water conservation and distribution became so extensive and elaborate that, in the thirteenth century, the state, weakened by a series of wars with the neighbouring Thais and extravagant building projects, could no longer muster the labour force necessary to maintain it, and the sophisticated system that had brought prosperity and power to the Khmers began to falter and fall into disrepair. Gradually, the canals and irrigation channels that surrounded Angkor, covering an area of more than 1,000 sq. km., became clogged, were quickly overgrown, and became breeding grounds for mosquitos. The population, which at the height of Khmer power numbered more than seven hundred and fifty thousand, was decimated by malaria and forced to flee Angkor, and in 1431 A.D., the capital was overrun and sacked by the Thais. Abandoned by its inhabitants, Angkor's palaces, temples, libraries and irrigation system, were soon swallowed up and obliterated by tropical evergreen forest. So completely was this effacement effected that for some four hundred years this once prosperous and influential civilisation and its vast monumental inheritance were lost and forgotten.

2. COLONIAL HISTORY

Following the fall of the Khmer civilisation, Cambodia became little more

1. In 800 A.D., Jayavarman visited East Java to pay homage to the Sailendra King Indra, who claimed to be 'King of the Mountain' (meaning Mount Meru) and built Candi Borobudur.

than a backwater. Gradually, its territory was encroached upon by the neighbouring kingdoms of Annam (Vietnam), Lan-Xang (Laos), and Ayutthaya (Siam), and it was only saved from complete dismemberment by the establishment of a French Protectorate in 1863. The intervention of the French Government was precipitated by the desire to protect the western flank of Annam, which had recently been ceded to Napoleon III as a result of a punitive expedition sent to avenge the death of a number of French missionaries in 1858; and to restrict the influence of the perfidious British who, it was presumed, were responsible for directing Thai policy towards Cambodia. French hopes of developing trade with western China via the Mekong and making Cambodia the shining jewel in Napoleon III's colonial crown proved to be unfounded, and the country sank gradually into disorder and rebellion. Thailand eventually recognised the Protectorate and renounced all claims to suzerainty in exchange for Cambodia's northwestern provinces of Battambang and Siem Reap, which were, however, returned under the Franco-Thai Convention of 1907 and confirmed by the Franco-Thai Treaty of 1937. In 1904, the province of Stung Treng, formerly administered as part of Laos, was attached to Cambodia.

3. MODERN HISTORY

Cambodia declared independence in March 1945, when the Japanese ended French power in Indo-China. However, after the defeat of the Japanese in August 1945, the French Government attempted to re-establish its authority, and it was not until 9 November 1953 that Cambodia attained its sovereign independence. In January 1955, Cambodia became financially and economically independent, both of France and the other two former Associate States of French Indo-China, Laos and Vietnam. Two months later, on 2 March 1955, King Norodom Sihanouk, whom the French Government had placed upon the throne in 1941, believing that he could lead his country more effectively from a less exalted position, abdicated in favour of his father, King Norodom Suramarit (1898-1960). Following a period of increasing economic difficulties and growing indirect involvement in the Vietnam War, Prince Sihanouk was deposed by Marshal Lon Nol in March 1970, and on 9 October 1970 the Kingdom of Cambodia became the Khmer Republic. Six months earlier, on 5 May 1970, Sihanouk announced the formation of the Royal Government of National Union (GRUNK) in Peking, under the auspices of the National United Front of Khampouchea, with himself as Head of State. The United States backed Lon Nol Government fell on 17 April 1975, when GRUNK forces finally occupied Phnom Penh and established the Democratic State of Khampouchea. Sihanouk retired shortly after his return from exile.

3. CULTURAL HERITAGE

1. ARCHAEOLOGICAL

Prehistoric Sites

Despite a century of research, little is known of the prehistory of Khampouchea. The remains of three neolithic settlements at Samrong Sen, Anlong Phdau and Mlu Prei, in the vicinity of the Tonle Sap Lake, are all threatened by fluvial erosion and the exploitation of shell deposits. Excavations begun at Prek-Chhlong, Loang-Spean and Phnom-Kbal-Romeas, between 1962 and 1969, have since been abandoned.¹

Protohistoric Sites

The 'New History of the T'ang' mentions two capital cities of the Fu-nan Empire, T'o-mou and Na-Fou-Na, and archaeologists and scholars have devoted considerable time and effort to the exact location of these sites. Excavations at Angkor-Borei have revealed an unfinished brick sanctuary and the oldest Khmer inscription discovered to date (611 A.D.). At Phnom-Da, a hill settlement with cave sanctuaries cut into its sides, surmounted by the Asram Moha-Rosei, one of the earliest-surviving Khmer monuments, a number of early Khmer statues have been unearthed. The conqueror of Fu-nan, Ishanavarman I, established his capital at Sambor Prei Kuk to the north of Kompong Thom. There he constructed the first-known group of Khmer monuments, of which the following have been excavated : Prei Khmeng (Puok, Siemreap), Prasat Andet (Kompong Thom), Prasat Srei Krup Leak (Phnom Baset), Prasat of Kompong Prah (Kompong Chhnang), Prasat Phum Prasat (Kompong Thom), un-named sanctuary to the south of Prei Prasat and the most ancient parts of Ak Yum (Siem Reap). Excavations begun at these sites have now been abandoned.²

2. ARCHITECTURAL

The rapid rise to power and subsequent decline of the Khmer civilisation spanned little more than eight hundred years, from the establishment of Sambor Prei Kuk in 616 A.D. by Ishanavarman I until the sacking of Angkor by the Thais in 1431 A.D. During the eight hundred year lifespan of the

1. Division of Cultural Patrimony, Phnom Penh. Op.Cit. pp.153-155.

2. Division of Cultural Patrimony, Phnom Penh. Op.Cit. pp.156-157.

Khmer civilisation, a mixture of indigenous elements and forms imported from India were combined and developed to create an artistic and architectural tradition of originality and vigour matched only by the Indianised Kingdoms of Central and Eastern Java. However, after the fall of Angkor the Khmers abandoned their cities, palaces and temples to the jungle, and thereafter artistic and architectural traditions withered. Three distinct periods are generally recognised in the evolution of Khmer art and architecture :

- | | | | |
|----|------------------|---|----------------|
| 1. | Early Period | : | 500-800 A.D. |
| 2. | Classical Period | : | 800-1250 A.D. |
| 3. | Final Period | : | 1350-1431 A.D. |

Early Period

The early period marks the transitional phase from timber to brick structures. Few material records have survived from the period, but it is surmised from the character of later structures that the original inhabitants of Chen-la, who called themselves the 'Kambuja', lived in timber dwellings roofed with terracotta tiles, raised above the swampy ground along the margins of the Tonle Sap Lake on stilts. Under Indian influence structures of a more permanent nature were erected and the area of settlement was extended. Of the few monuments surviving from this period, the c.6-7th century Buddhist temple at That Panom on the Lower Mekong is the most celebrated, because of its brick bas-reliefs executed in the style of the Amaravati school of the Late Andhra period (25 B.C.-320 A.D.).¹

Classical Period

The classical period, which marks the consolidation of the Khmer empire, is usually divided into four phases :

- | | | | |
|----|--------------------------------|---|----------------|
| 1. | Formative Phase | : | 800-1000 A.D. |
| 2. | Foundation of Classical Phase | : | 1000-1100 A.D. |
| 3. | Culmination of Classical Phase | : | 1100-1200 A.D. |
| 4. | Flamboyant or Baroque Phase | : | 1200-1250 A.D. |

1. Brown, P. 'Indian Architecture (Buddhist and Hindu)', D.B. Taraporevala Sons & Co Private), Bombay, Sixth Edition, 1971, p.181.

a) Formative Phase

The formative phase marks the establishment of the Khmer monarchy and the worship of the 'Devaraja' (god-king), which, in later phases of the classical period, becomes the principal inspiration of artistic and architectural expression. On his return from East Java, Jayavarman II (802-850 A.D.) began the process of national unification that was completed by his grandson, Indravarman (877-889 A.D.). During this time the capital was successively located at Indrapura, Visaya Purvadesa, Hariharalaya (Roluos), Amerendrapura, Mahendraparvata (Kulen) and, for the second time, Hariharalaya, before Yashovarman (889-900 A.D.) founded Yashodharpura on the later site of Angkor. After a period of unrest, the capital was again moved, by Jayavarman IV (921-941 A.D.), to Koh Ker, but on his death, it returned to Yashodharpura. Jayavarman's successor, Rajendravarman II (944-968 A.D.), restored the abandoned capital, henceforward known as Angkor, and inaugurated the classical phase. Monuments and sites of note surviving from the formative phase include : the temples of Damrei Krap, O Paong, Rup Arak, Neak Ta, Kraham, Thma Dap, Khting Slap, Krus Preah and Aram Rong Chen at Mahendraparvata (Kulen); the Bakong Temple, Prah Ko Sanctuary and Indratataka Baray (tank) and Lolei Temple at Hariharalaya (Roluos); the Prang and Krasat Kraham Temple at Koh Ker; and the sanctuaries of Phnom Bakheng, Phnom Bok and Phnom Krom, and the temple-mountains of Pre Rup and the Oriental Mebon at Yashodharpura (Angkor).¹

b) Foundation of Classical Period

During the fifty-year reign of the usurper Suryavarman I (1001-1050 A.D.) the imperial power of the Khmers was consolidated at Angkor. Angkor Thom was planned and the massive civil-engineering works that controlled the waters of the Tonle Sap Lake were begun. Khmer authority was also extended over a large part of the peninsula of Indochina.² Monuments and sites of note surviving from the period include : the Banteay Srei Sanctuary, the Occidental Baray, and the temple-mountains of Baphuon, Phimean Akas and the Occidental Mebon. In the provinces were built the temples of Preah Vihear, Vat Ek and Chau Srei Vibol, etc.³

1. Brown, P. Op.Cit. pp.181-182.

2. Almost one thousand Khmer and Khmer-influenced structures have been recorded as dating from this phase of the classical period of Angkor.

3. Brown, P. Op.Cit. p.182.

c) Culmination of Classical Phase

The expansionist policy of Suryavarman II (1113-1150 A.D.) brought the Khmers into increasing conflict with the Chams, but after initial territorial gains in the east, Angkor was overrun and put to the torch in 1177 A.D. Despite the turbulence of the times, the period was one of intense constructional activity and several important structures were erected, of which Angkor Wat, the 'temple-city' or 'grand cathedral' of the Khmers, is the most outstanding. Begun by Suryavarman II in the second quarter of the twelfth century A.D., it was completed by his successor, Dharanindravarman II (1152-1181 A.D.), half a century later. Originally consecrated to the Hindu deity Vishnu, it was adapted to Buddhism by Jayavarman VII (1181-c.1220 A.D.). Angkor Wat is rightly regarded as one of the world's most important cultural properties, on a par with Candi Borobudur in Indonesia, the Acropolis in Greece and Abu Simbel in Egypt.¹

d) Flamboyant or Baroque Phase

During the reign of the last of the great Khmer 'builder-rulers', Jayavarman VII, who has been compared with Louis XIV because of the unprecedented scale and exuberant ornamentation of the ambitious schemes commenced during his reign, the authority of the Khmers was reasserted and the Chams were reduced to suzerain status. In contrast to his predecessors, who were practising Hindus, Jayavarman VII practised Buddhism. In consequence, many temples and monasteries were constructed during this last phase of the classical period. Examples of note from the period include : the temples of Preah Khan, Ta Prohm, Banteay Chmar, Wat Nokor, Ta Prohm of Bati, and the Bayon.²

Final Period

After the death of Jayavarman VII in c.1220 A.D., the Khmers, seemingly exhausted by their titanic labours, fell prey to the Thais, who for a considerable period had been gathering strength in the west. Angkor fell in 1431 A.D.³ Thereafter only timber, Buddhist monasteries were built.⁴

1. Brown, P. Op.Cit. pp.182-183.

2. Brown, P. Op.Cit. pp.183-185.

3. Brown, P. Op.Cit. p.186.

4. Groslier, B.P. 'Indochina', Nagel, Geneva, 1966, p.76.

Building Types

Because of the perishable nature of timber, bamboo and thatch, nothing has survived of the structures immediately preceding and following the Angkor civilization, other than recent Thai-influenced structures. In consequence, the range of building types is restricted to religious structures and civil engineering works.

a) Civil Engineering Works

The basis of Khmer prosperity was their ability to compensate for the uncertainties of nature, to increase the yield of their land, and so to create an economic potential sufficient to support their expansion. This was achieved through the creation of an immense hydraulic system comprising : reservoirs (barays), dikes, canals, bridges, causeways and distribution channels. At its height, the system at Angkor covered an area of approximately 1,000 sq km., linking the capital city, Angkor Thom, with the numerous towns and hamlets around about it.

b) Temple-Mountains (Pyramid Temples)

The so-called 'temple-mountain' is representative of both the spiritual authority of the Devaraja (god-king), the lingham, the physical manifestation of Shiva, being enshrined within the sanctuary, and the structure of the universe according to Hindu cosmology. The earliest surviving temple-mountain is the Preah Ko (begun 879 A.D.) at Hariharalaya (Roluos). Like virtually all Khmer structures, the Preah Ko is oriented east to west, with its main gates to the east. The Bakong (begun 881 A.D.) is also situated at Hariharalaya (Roluos). Both are constructed of baked brick, lime stucco, sandstone and laterite. The Preah Ko was constructed by Indravarman I (877-889 A.D.), and comprises a group of six towers set on a low platform in the centre of a rectangular enclosure, itself set within a second rectangular enclosure surrounded by a moat. The temple platform is approached from the east via a ceremonial pathway. The Bakong was also constructed by Indravarman I. However, it was intended to contain his royal essence, the Devaraja, and was deliberately designed as a more ornate structure. It comprises a five-storeyed, stepped-platform base, surmounted by a tower-sanctuary with four projecting doorways. Four stairways, guarded by lions and elephants, ascend

the four sides of the central pyramid, which is surrounded by eight shrines, set within three concentric, rectangular enclosures, an earth embankment and a moat. The Bakheng (begun 893 A.D.) at Yashodharpura (Angkor), constructed by Yashovarman (889-900 A.D.) on the summit of a natural promontory named Phnom Bakheng, is a development of the Bakong. However, instead of a single tower-sanctuary, there are five surmounting the central, five-storeyed, stepped-platform base. On the ground around the base of the central pyramid stand forty-four shrines, while on each step of the platform base stand twelve small shrines, making a total of 108 towers set around the central tower. The whole structure, which is reminiscent of Candi Borobudur (c.800 A.D.) in Central Java, is thought to represent the Hindu universe. For example, the number 108 equals twenty-seven (the number of 'lunar mansions') times four (the number of 'lunar phases'). The seven levels of the monument (ground, five-storeyed platform base and summit) represent the seven mythological Hindu heavens, and the towers are arranged so that only thirty-three (the canonical number of Hindu deities) can be seen at once. Other calculations, based on the seasons, the planets and other factors, are also thought to have influenced the form of the structure.¹ Yashovarman's brother, Harshavarman (900-921 A.D.), also built his temple-mountain, the Baksei Chamkrong (first quarter of the 10th century), at Yashodharpura, but in contrast to the cosmological ingenuity of the Bakheng, the Baksei Chamkrong is a small, delicately proportioned structure, comprising a four-storeyed, stepped-platform base, surmounted by a single tower-sanctuary which once housed a golden image of Shiva. Both the Bakheng and the Baksei Chamkrong are constructed of baked brick, lime stucco, sandstone and laterite. The first temple-mountain intended as a permanent shrine to the divine spirit of the deceased monarch was the Pre Rup (961 A.D.), built by Rajendravarman (944-968 A.D.) at Angkor. In common with the Bakheng, constructed seventy years earlier, the Pre Rup has five tower-sanctuaries, but instead of having five storeys, the stepped-platform base has only three storeys. It has the traditional four stairways at the cardinal points of the compass, each guarded by lions, and is set with two concentric, rectangular enclosures. An innovation is the provision of a gallery, originally roofed with timber and terracotta tiles, on each terrace of the stepped-platform base. It too is constructed of baked brick, lime stucco, laterite and sandstone. The principal work

1. Rawson, P. 'The Art of Southeast Asia', Thames and Hudson, London, 1967, pp.55-56.

of Suryavarman I's reign (1002-1050 A.D.) was the Ta Keo (c.1000) at Angkor. It is the first structure to be constructed entirely of sandstone and is conceived on a massive scale, the base of the five-storeyed, stepped-platform base measuring 104 m by 124 m, and the summit of the central tower-sanctuary measuring 71 m above ground level. A covered gallery with windows, similar to that of the Pre Rup, runs around the platform-base at first floor level. The Baphuon (c.1050-1066 A.D.), constructed by Udayadityavarman II (1050-1066 A.D.) at Angkor is the last temple-mountain to be constructed before Angkor Wat, and it is considered to be the prototype from which Angkor Wat was developed. Regrettably, the Baphuon is in a poor state of repair due to faulty construction and the effects of a severe flood that engulfed Angkor towards the end of the twelfth century A.D., and the celebrated copper-coloured tower-sanctuary noted by the Chinese diplomat, Chou Ta-kuan, following his visit to Angkor during the thirteenth century A.D., has long-since disappeared because of the perishable nature of the structure. After the death of Udayadityavarman II in 1066 A.D. more than half a century was to pass before another temple-mountain was constructed. The construction of Angkor Wat (begun, second quarter of the twelfth century) by Suryavarman II (1113-1150 A.D.) at Angkor, marks the ultimate expression of the cult of the Devaraja, for within a decade of its completion, Angkor was overrun and sacked and the line of the god-kings was forever ended. Angkor Wat is a structure of titanic proportions. Situated 1.5 km to the south of the walled capital city of Angkor Thom, being too large to fit within its walls, its principal approach is from the west instead of the east according to tradition, along a 500 m long causeway lined by giant nagas (snakes), flanked on both sides by a large rectangular tank. A bridge crosses the 200 m wide moat that encompasses the whole of the temple-mountain complex, linking the causeway with a large, elevated platform, cruciform on plan, in front of the galleried, outer enclosure. The outer gallery, which is roofed and has four small corner towers, measures 1,385 m by 1,570 m. Within it there are two smaller galleried, enclosures, within which is situated the great stepped-platform base that supports the central complex of tower-sanctuaries. The whole structure, which is constructed of sandstone, is lavishly carved with bas-reliefs, the main inspirations for which are the Ramayana and the Mahabharata, serpentine garlands and mythological figures. The whole was carved 'in situ' by an army of stone carvers.¹

1. Kalman, B. and Cohen, J.L. 'Angkor : Monuments of the God Kings', Thames and Hudson, London, 1975, pp.93-150.

After the sacking of Angkor, the Khmer monarchy adopted the Buddhist religion, particularly that form dedicated to the Bodhisattva Lokeshvara, 'the Lord of the Worlds'. The cult of the Devaraja was thus transformed into that of the Buddharaja, the Buddha replacing Shiva as the source of divine authority. The Bayon (c.1200 A.D.) is the only known example of a Buddhist temple-mountain outwith Central Java (Candi Borobudur). Built by the prolific Jayavarman VII (1181-c.1220 A.D.), who is alleged to have moved more stone during his celebrated forty-one year reign than all of his predecessors put together, it was radically altered, rebuilt and enlarged during construction, so that today it appears as a confused jumble of more than fifty towers set within two rectangular galleried enclosures. The Bayon is perhaps best known for its enigmatic, smiling images of Lokeshvara that are carved on each of the four faces of each tower, and the extensive bas-reliefs that record the struggles between the Khmers and the Chams and scenes of daily life.¹

c) Temples and Shrines

In addition to temple-mountains, the construction of which was a royal prerogative, numerous temples and shrines were also constructed from c.920 A.D. onwards. One of the earliest is the Prasat Kravan (c.921 A.D.), a Vishnu temple renowned for the series of icons carved into the baked brick of the tower. Later examples, built of sandstone, are ornately carved in the same tradition as the temple-mountains previously described.

d) Libraries

Libraries were usually constructed under royal patronage and are found in association with such structures as Angkor Wat. However, a number of private libraries were also constructed by individuals and foundations, of which the Bantaey Srei, located twenty kilometres north of Angkor Wat, is the most outstanding. Constructed of pink sandstone, it was founded by Yajnavaraha, the Brahmin tutor of Rajendravarman II (944-968 A.D.), in 967 A.D. and comprises three tower-sanctuaries, around which are arranged the library buildings, set within two rectangular enclosures. The whole assemblage is ornately carved.

1. Kalman, B. and Cohen, J.L. Op.Cit. pp.184-201.

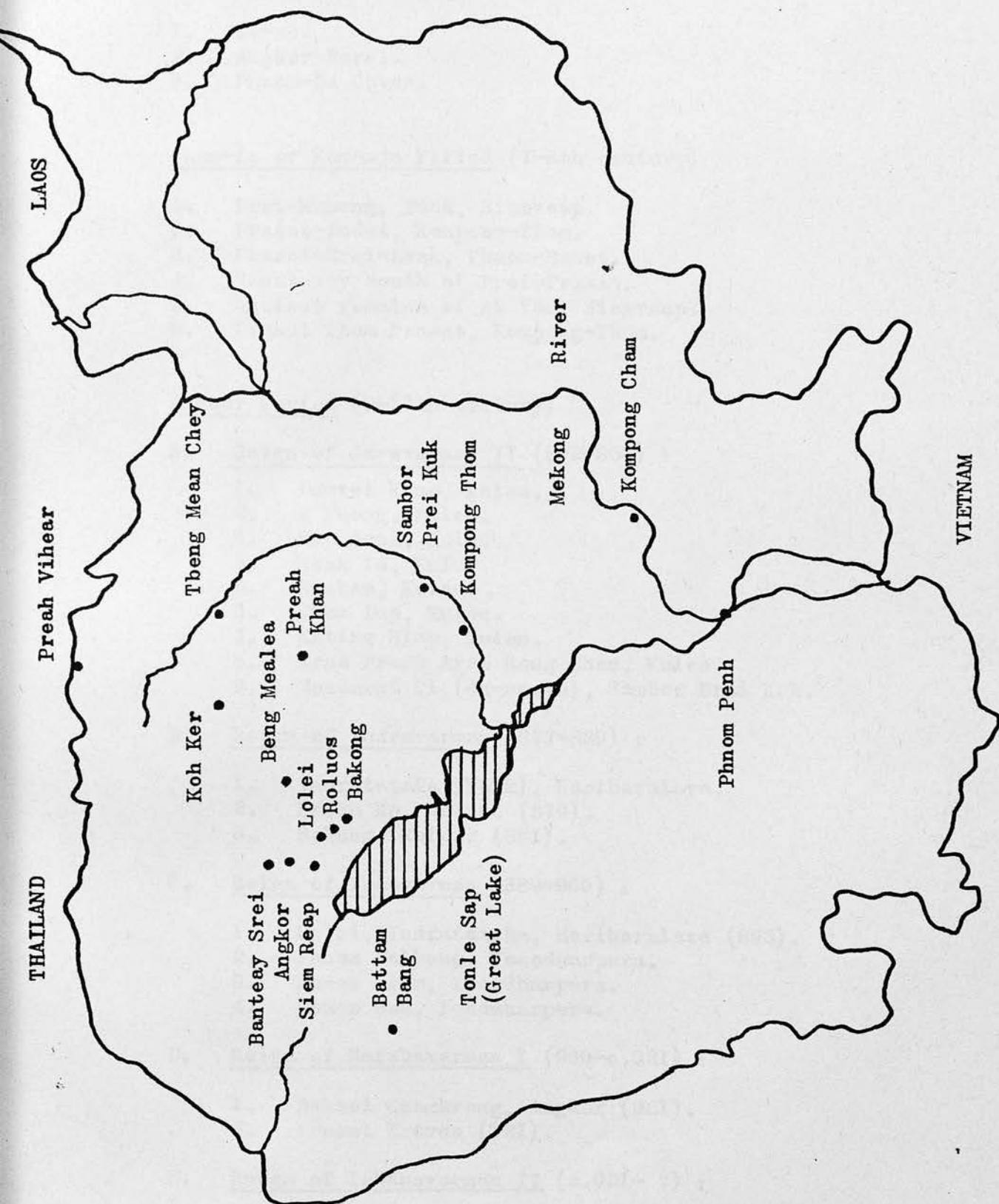


Fig.87 Khampouchea - Principal Historic Sites (1 : 2 million).

Fou-Nan Period (1st-7th century A.D.)

1. Oc-eo.
2. Angkor-Borei.
3. Phnom-Da Caves.

Chen-la or Kambuja Period (7-8th century)

1. Prei-Khmeng, Puok, Siemreap.
2. Prasat-Andet, Kompong-Thom.
3. Prasat-Srei-Leak, Phnom-Baset.
4. Sanctuary south of Prei-Prasat.
5. Ancient remains of Ak Yum, Siemreap.
6. Prasat Phum Prasat, Kompong-Thom.

Angkor Period (8-13th century)

A. Reign of Jayavarman II (802-850) :

1. Damrei Krap, Kulen.
2. O Paong, Kulen.
3. Rup Arak, Kulen.
4. Neak Ta, Kulen
5. Kraham, Kulen.
6. Thma Dap, Kulen.
7. Khting Slap, Kulen.
8. Krus Preah Aram Rong Chen, Kulen.
9. Monument C1 (un-named), Sambor Prei Kuk.

B. Reign of Indravarman (877-889) :

1. Indratataka (Tank), Hariharalaya.
2. Preah Ko, Rolous (879).
3. Bakong, Rolous (881).

C. Reign of Yacovarman (889-900) :

1. Lolei, Indratataka, Hariharalaya (893).
2. Phnom Bakheng, Yacodharpura.
3. Phnom Krom, Yacodharpura.
4. Phnom Bok, Yacodharpura.

D. Reign of Harshavarman I (900-c.921) :

1. Baksei Chamkrong, Angkor (921).
2. Prasat Kravan (921).

E. Reign of Ishanavarman II (c.921- ?) :

1. Baksei Chamkrong, Angkor (921).

F. Jayavarman IV/

Angkor Period (8-13th century) (cont.)

F. Reign of Jayavarman IV (921-941) :

1. Prasat Kraham, Koh Ker.
2. Prang, Koh Ker.

G. Reign of Rajendravarman II (944-968) :

1. Eastern or Oriental Mebon, Angkor (952).
2. Pre-Rup, Angkor (961).
3. Banteay Srei, Banteay Srei, Angkor (967).

H. Reign of Jayavarman V (968-1001) :

1. Phimeanakas, Angkor.

I. Reign of Suryavarman I (1002-1050) :

1. Ta Keo, Angkor.

J. Reign of Udayadityavarman II (1050-1066) :

1. Baphuon, Angkor (c.1050-1066).
2. Western or Occidental Baray, Angkor.
3. Western or Occidental Mebon, Angkor.

K. Reign of Suryavarman II (1113-c.1150) :

1. Thommanon, Angkor.
2. Chau Say Tevoda, Angkor.
3. Angkor Wat, Angkor.
4. Banteay Samre, Angkor.
5. Beng Mealea, Angkor.
6. Preah Khan, Angkor.
7. Kompong Svay, Angkor.

L. Reign of Jayavarman VII (1181-c.1220) :

1. Ta Prohm, Angkor (1186).
2. Preah Khan, Angkor (1191).
3. Neak Pean, Angkor.
4. Ta Som, Angkor.
5. Sras Srang, Angkor.
6. Angkor Thom, Angkor.
7. Bayon, Angkor.
8. Royal Terraces, Angkor.
9. Sras Srei, Angkor.
10. Ta Prohm, Angkor.
11. Banteay Chmar, Angkor.
12. Ta Prohm, Bati.

1. Ministry of Culture, Youth and Sports, Division of Culture, Phnom Penh, 1972. See SEAMEO, 'Proceedings of the Preparatory Conference on the Restoration and Animation of Historical Sites for the Purpose of Establishing the ARCAFA', Phnom Penh, 1972, pp.153-166.



Fig.89 Khampouchea - Phnom Kulen, Angkor (early 9th-century).

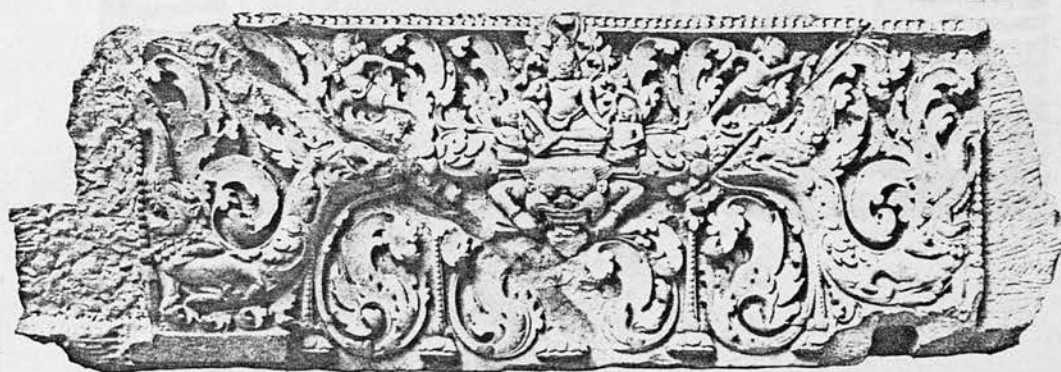


Fig.90 Khampouchea - Phnom Kulen, Angkor (early 9th-century).
Detail of sandstone lintel.

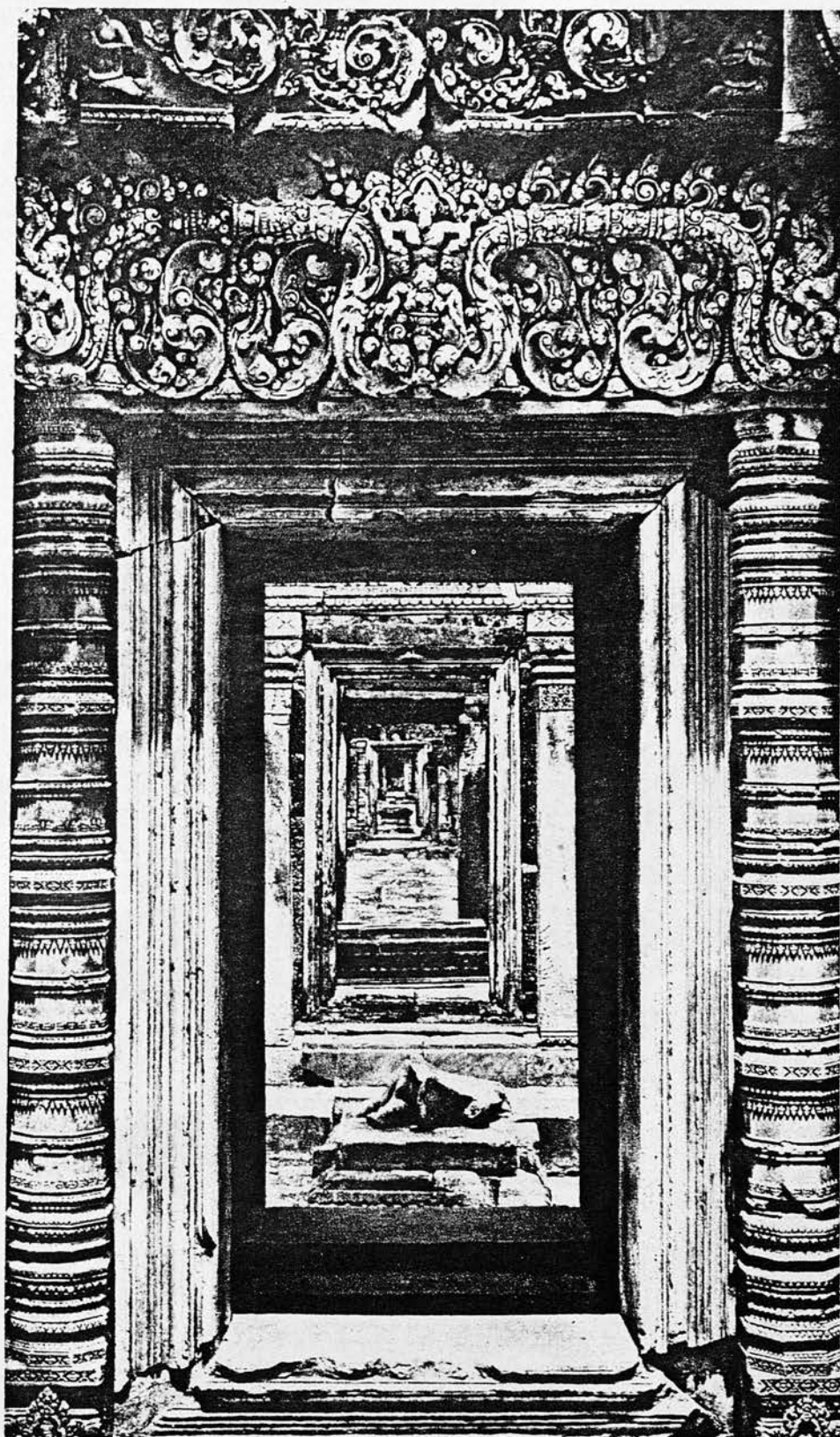


Fig. 91 Khampouchea - Banteay Srei, Angkor (967 AD). Detail of eastern access with decorative door surround carved in heavy relief. Perhaps the most beautiful of all the early Khmer temples.

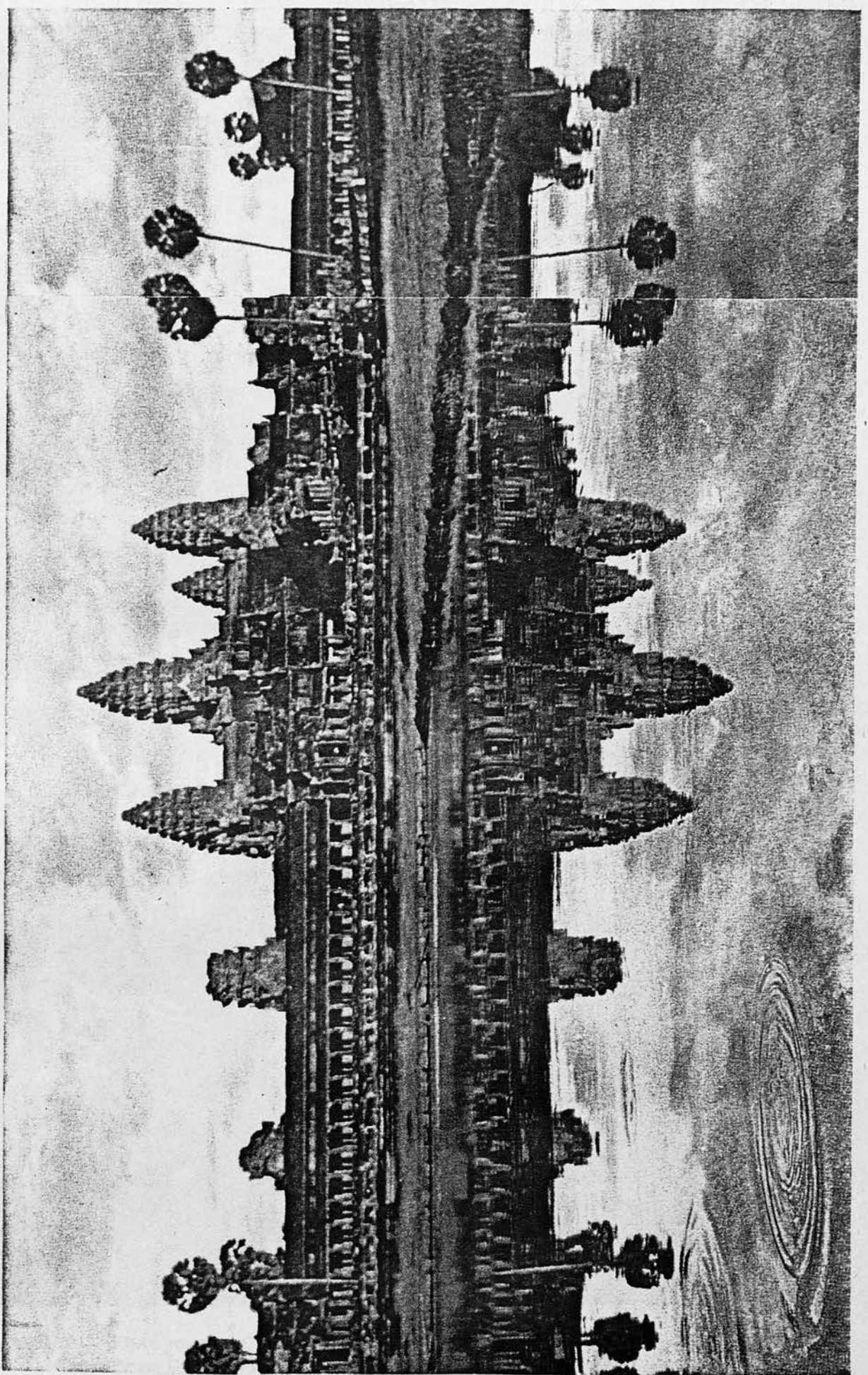


Fig. 92 Khampouchea - Angkor Wat, Angkor (early 12th-century). Built by Suryavarman of sandstone which was dressed carved and ornamented after construction.



Fig.93 Khampouchea - Angkor Wat. Two asparas (dancing nymphs)
from bas relief in the inner courtyard of temple.

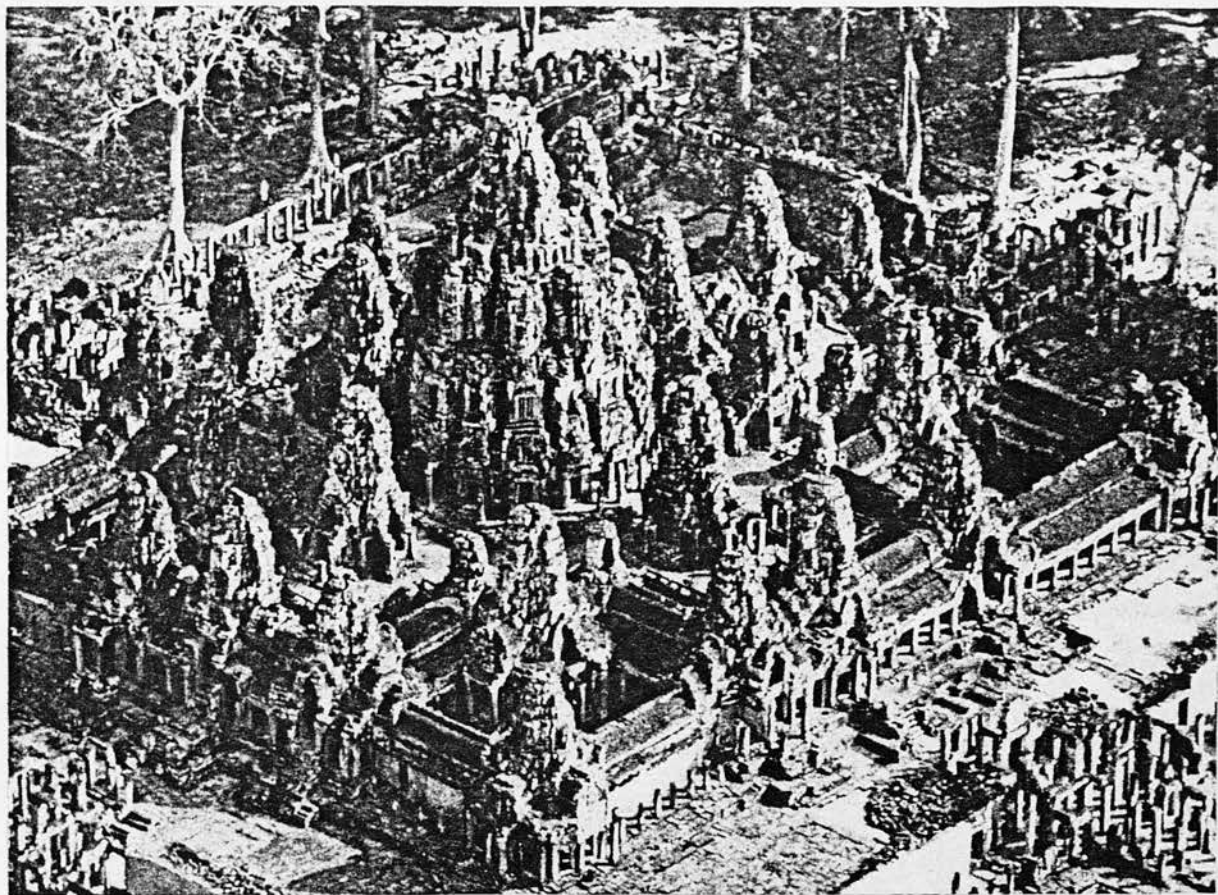


Fig. 94 Khampouchea - Bayon, Angkor. Aerial view of temple complex.

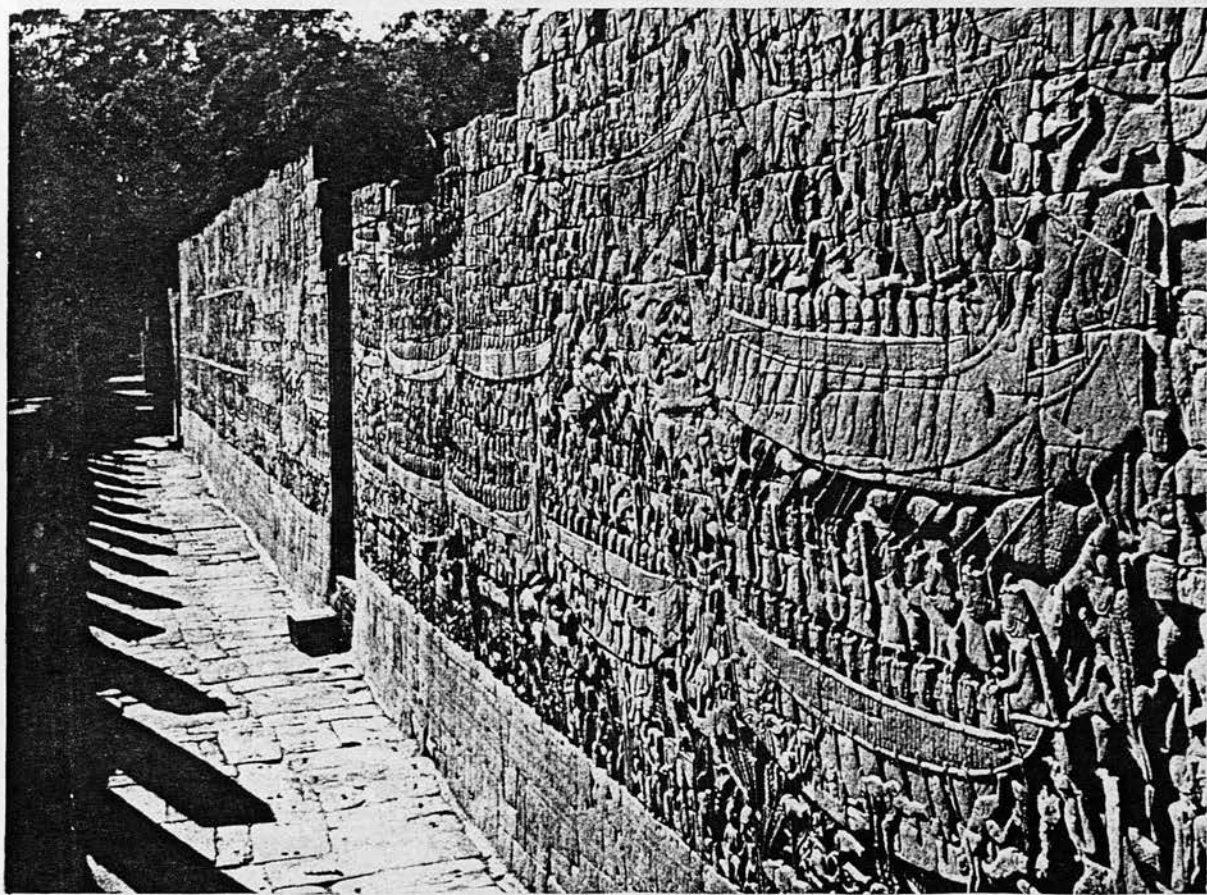


Fig. 95 Khampouchea - Bayon, Angkor. Section of 1,300 sq m - sandstone has relief covering inner gallery walls of temple.

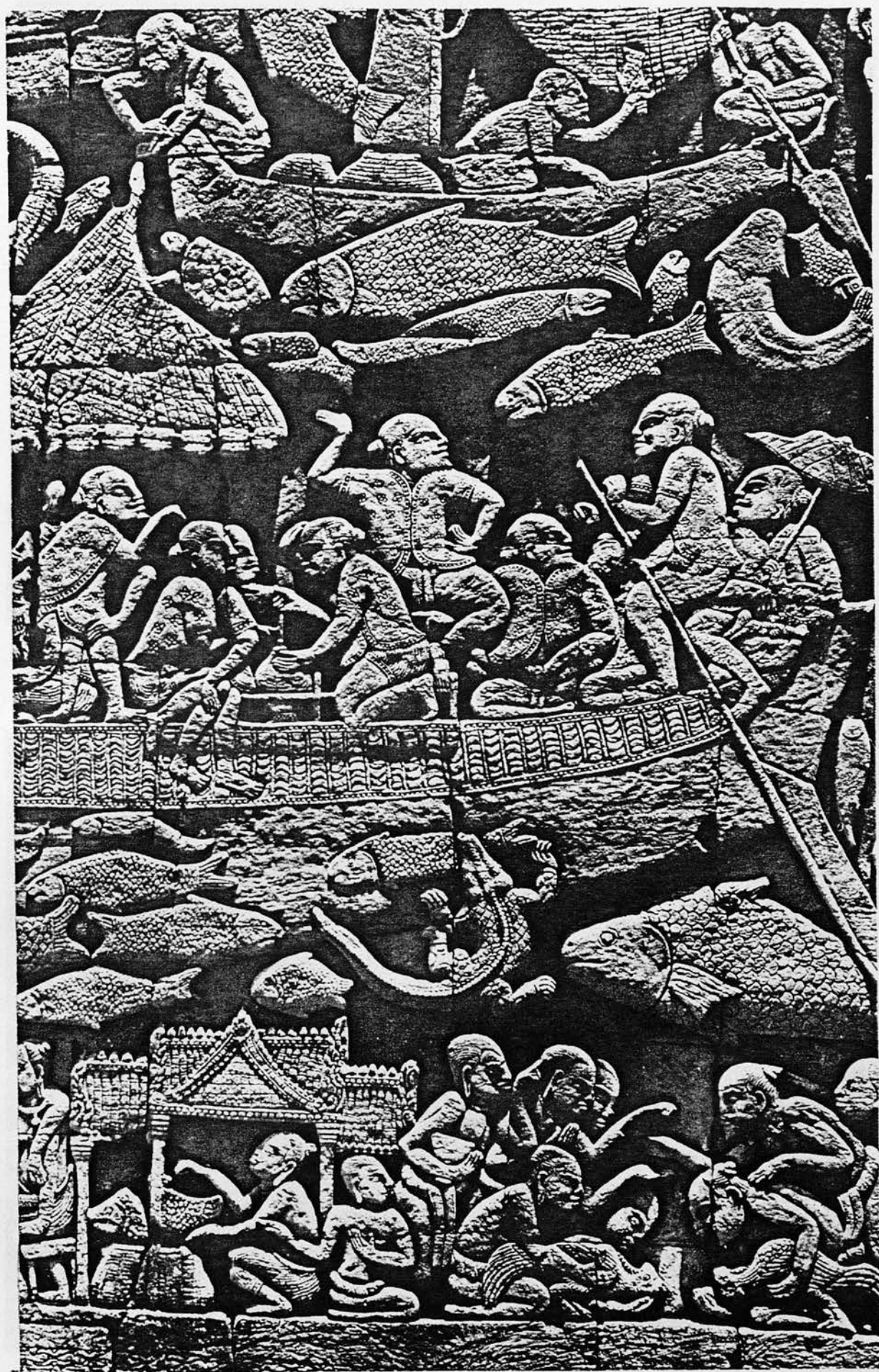


Fig. 96 Khampouchea - Bayon, Angkor. Detail of 1,300 sq m sandstone bas relief covering inner gallery walls of temple.

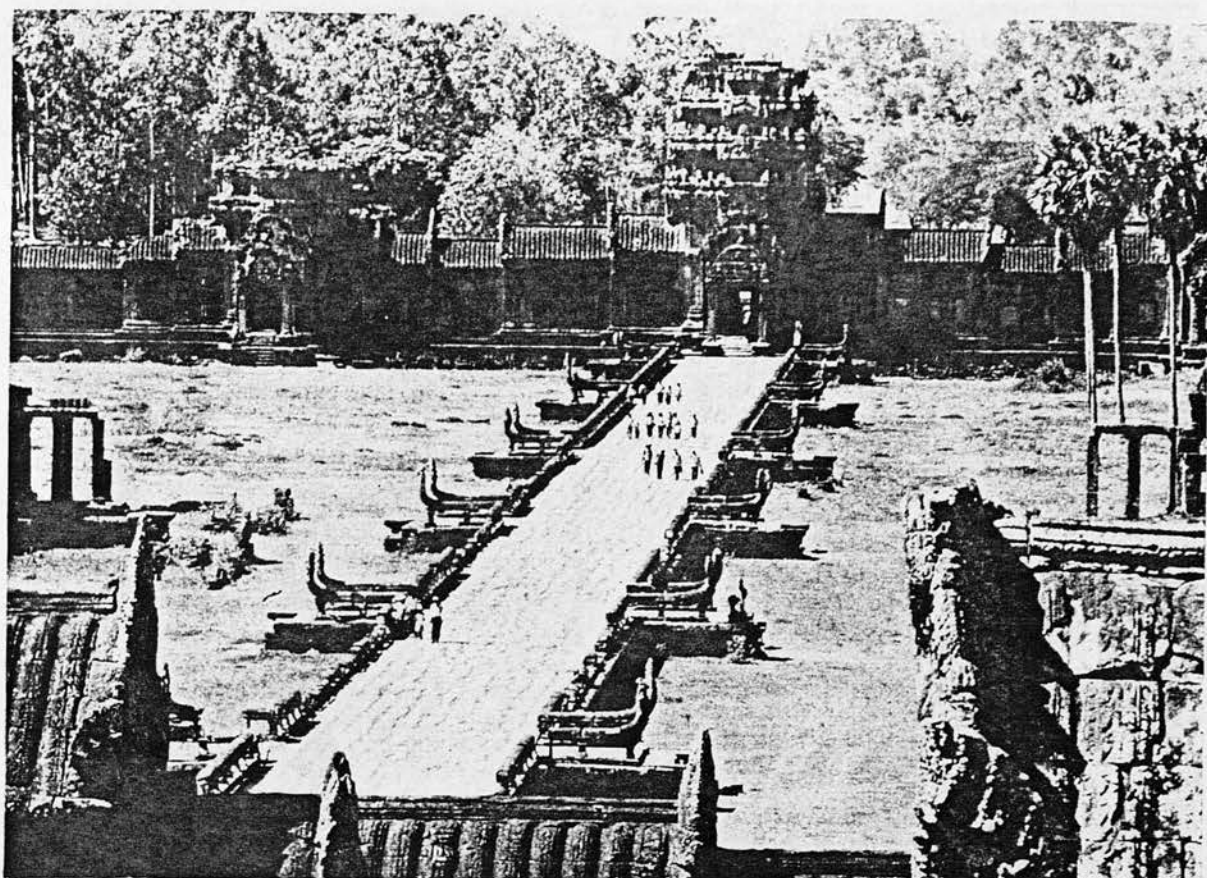


Fig. 97 Khampouchea - Angkor Wat. Final section of axial 350 m causeway flanked by Nagas (water divinities in the form of snakes). Triple storeyed gopuram in background.



Fig. 98 Khampouchea - Angkor Thom. Detail of 300 m elephant terrace. Triple-headed elephants (symbol of goddess Indra) gathering lotus blossoms on right.

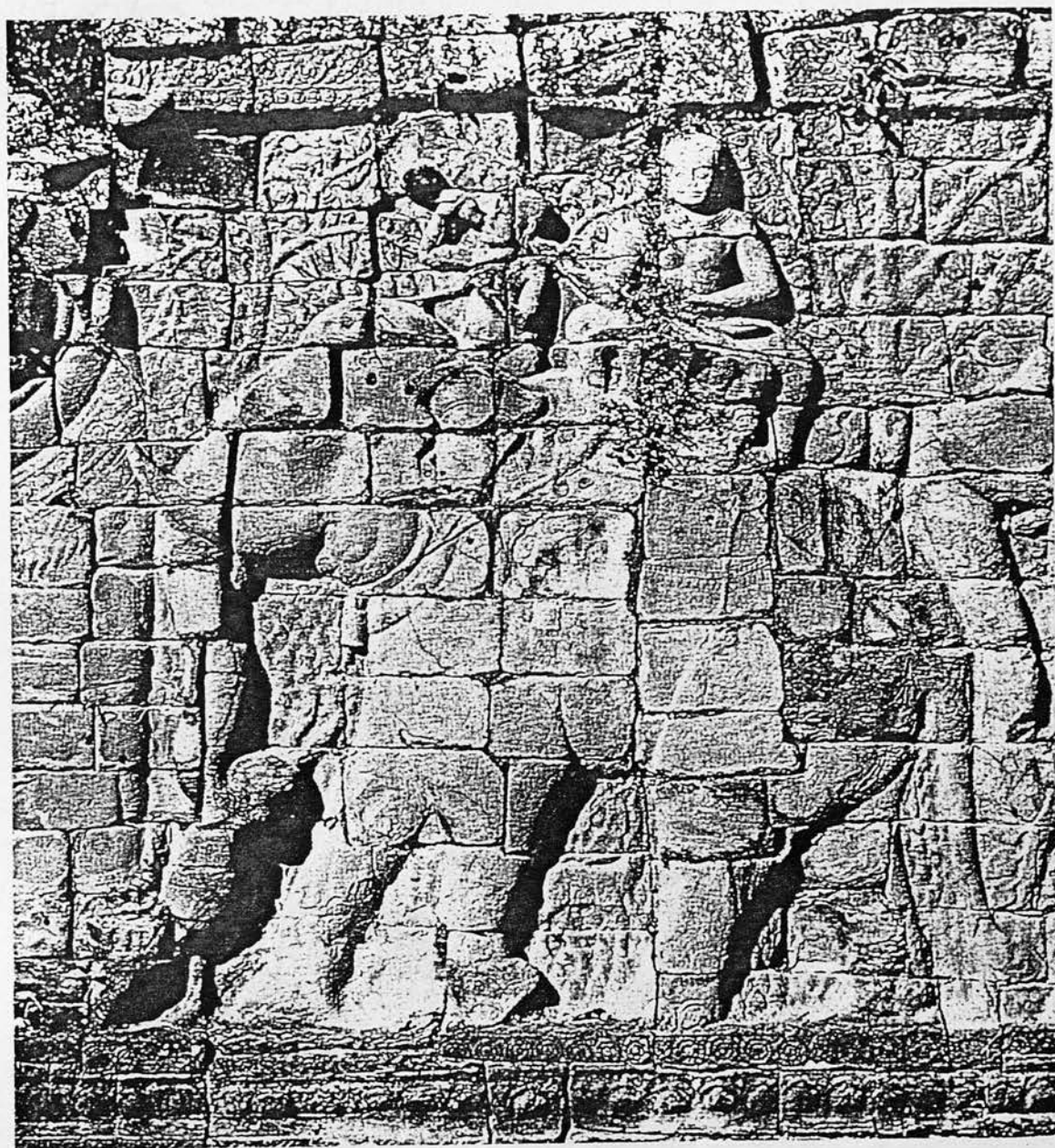


Fig.99 Khampouchea - Elephant Terrace, Angkor Thom. Detail of bas-relief of royal 'saluting base'.



Fig. 100 Khampeuchea - Banteay Kdei, Angkor (begun 1181). Entrance gateway to Angkor Thom temple complex.



Fig.101 Khampouchea - Angkor Thom, Angkor (early 13th-century).
One of the four entrance gates to the complex surmounted
by the four faces of Jayavarman VII.



Fig.102 Khampouchea - Lakshmi Temple, Prasat Kravan. Detail of bas-relief carved in brick (921 AD).

4. CAUSES OF DECAY

1. INTRINSIC CAUSES

Location

a) Microclimate, Subsoil Conditions and Drainage

Khampouchea has a tropical monsoon climate with a distinct dry season (November-May). Monuments and sites located at sheltered, central lowland sites, such as Siem Reap, Angkor, Banteay Srei, Beng Mealea, Preah Kham, Sambor Prei Kuk, Kompong Thom and Phnom Penh, are subject to 1,000-1,500 mm rainfall per annum, the majority of which falls during the SouthWest Monsoon (June-September). Mean annual temperatures average 27°C and during the dry season the rate of evaporation is high. Relative humidity varies between 55 per cent and 95 per cent according to the season. Subsoil conditions and drainage vary, but at sites subject to regular inundation, differential settlement and slippage are common problems. Laterisation of the soil is well advanced.

Materials

a) Timber, Bamboo and Thatch

Timber, bamboo and thatch have traditionally been the most widely used building materials, but because of their organic nature they are particularly subject to decay (rot and insect attack) and fire damage. Consequently, few monuments constructed of timber and timber-based materials have survived from before the nineteenth century.

b) Stone

Laterite and sandstone of a pinkish/greyish hue are the principal building stones of Khampouchea, and both are widely used at Angkor and elsewhere. In contrast to the laterite, which weathers well, the sandstone weathers poorly and is subject to rapid erosion as a result of physico-chemical and micro-biological damage.¹

1. Fusey, P. and Hyvert, Giselle., 'Les Alterations Biologiques des Gres des Monuments Khmers', in Annales de l'Universite Royale des Beaux Arts, Phnom Penh, Annee 1967, pp.39-45.

Materials (cont.)

c) Mud and Unbaked Brick

There are no surviving examples of monuments or sites constructed of mud (adobe) or unbaked brick.

d) Baked Brick and Terracotta

From the ninth to the twelfth century A.D., baked brick and terracotta were widely used by the Khmers at such sites as Preah Ko, Bakong, Lolei, Pre Rup and Baksei Chamkrong, but later sandstone and laterite is more common. Laid in lime mortar, the baked bricks were protected and ornamented by a coating of lime stucco. Terracotta was used for roof tiles. Both materials weather differently according to the firing. For example, those used in the construction of the Lolei have weathered less well than those at Pre Rup.

e) Binding Materials

Baked brick structures are laid with lime mortar, but later sandstone and laterite structures are laid dry.

f) Metal

Bronze was sparingly used by the Khmers in the fabrication of free-standing images and few examples have survived to the present day. In recent structures, copper, bronze, silver and gold are used in the fabrication of free-standing images and temple furnishings and fittings. Bronze disease is widespread. Iron is used in the fabrication of fastenings.

g) Stucco and Other Finishes

Lime stucco is used as both a protective and decorative finish to the great majority of baked brick structures and structures that are constructed of a mixture of materials (sandstone, laterite and baked brick). The earliest surviving examples date from the ninth to the twelfth century. Later structures, such as palaces, audience halls, temples, stupas and monasteries, are also finished with a coating of lime or, more recently, cement stucco.

h) Ornamentation

Khampouchea has a tradition of brick, stucco and wood carving that dates back to the eighth century A.D. The earliest surviving stone structures, such as the Bantei Srei, are ornately carved in high relief and illustrate earlier carved timber structures (none of which have survived to the present day). Baked brick structures are usually carved in shallow relief only and coated with a finishing layer of lime stucco. Door and window surrounds, particularly lintels, are of sandstone and are always lavishly carved. Later laterite and sandstone structures are elaborately carved from the solid. So great was the task, that at least one scholar has lightheartedly speculated that the Khmers exhausted not only their genius but also their strength at Angkor and fell easy prey to the Thais, who for long had been threatening their western border.¹ More recent structures have drawn inspiration from the Khmer period and temples, audience halls, monasteries, palaces and ancillary structures are all lavishly ornamented with elaborate wood carvings. Lacquer, gilding and mother-of-pearl inlay are used to ornament temple furnishings and fittings. Splitting, flaking and separation are common problems.

i) Wall Paintings

Khampouchea does not have a tradition of wall painting.

Construction

a) Substructure

Foundations are traditionally shallow. Thus differential settlement and collapse are not uncommon problems at sites subject to regular inundation and saturation as a result of subsoil conditions and drainage.

b) Superstructure

The earliest surviving Khmer monuments are monolithic load-bearing structures. Openings are bridged by corbelling and lintels. The true arch is not used. Later timber structures use a simple post and lintel system

1. Rowland, B., 'The Art and Architecture of India : Buddhist, Hindu and Jain', Penguin, London, 1970, p.480.

of construction. A forest of pillars are used to support the massive traditional triple-roofs of temples, audience halls, palaces, monasteries and similar structures.

2. EXTRINSIC CAUSES

Actions of Man

a) Lack of Maintenance

Because of the situation prevailing in the former Khmer Republic up until the fall of the Government on 17 April 1975, there was no regular programme of maintenance in the country other than that undertaken by the Conservation d'Angkor at Siem Reap. The Conservation d'Angkor was first forced to leave Angkor and then Siem Reap early in 1972, and thereafter all maintenance ceased at the site. Since the fall of the Government of the Khmer Republic and the subsequent establishment of the Government of Democratic Khampouchea in 1975, the situation is believed to have seriously deteriorated. Eye-witness reports are rare, but one recently-published commentary notes that Angkor is being 'kept up' and that visiting dignitaries are still taken to see the ruins.¹

b) Abandonment and Squatting

Abandonment was a major problem before the events of 1975. Since 1975, the position has been aggravated by the forced abandonment of the country's towns and cities and the classification of Buddhism as a 'reactionary religion' by the ruling Angkar (Politburo) and its outlawing under Article 20 of the Constitution of Democratic Khampouchea :

'...Every Cambodian has the right to worship according to any religion and the right not to worship according to any religion. All reactionary religions which are detrimental to Democratic Khampouchea and the Cambodian people are strictly forbidden...'

In consequence, all religious structures (temples, stupas and monasteries) have been abandoned. Many are reported to have been systematically

1. Ponchaud, F., 'Cambodia : Year Zero', Penguin, London, 1978, p.145.

destroyed or profaned, their contents looted and their bonzes (monks) killed or forced to join work gangs in the countryside. Those not destroyed are used as storehouses or camps, and their grounds are used for pigsties.¹

c) Robbery and Vandalism

As previously noted in sub-section (b), the looting of Buddhist temples, monasteries and other religious buildings is reported to have been widespread since the events of 1975. For example, the relics of the following temples are reported to have been either destroyed or sold off and traded for salt at the Thai border : Prek Tauch Temple, Po Veal Temple, Elephant Temple, Sangkar Temple, Kandeung Temple and Konpong Seung Temple. All are situated in the provincial capital of Battambang.² Prior to the events of 1975, the problem was extremely serious, carved stone images and bas-relief being stolen from Khmer monuments and sites in the region of Battambang and appearing regularly on the Bangkok art market. The celebrated case of Andre Malraux and Louis Chevasson, both of whom were prosecuted for stealing antiquities in 1923, is recorded in greater depth elsewhere in this study. A more recent case concerned an elaborately carved sandstone lintel in the collection of the former President of the Olympic Committee, Avery Brundage, which, unbeknown to him, had been illicitly exported. The article in question was removed from exhibition and subsequently returned to Phnom Penh as 'a gift of the American people'.³

d) Alteration and Demolition

As previously noted in sub-section (b), the demolition of Buddhist temples, monasteries and other religious structures is reported to have been widespread since the events of 1975.

e) Faulty Restoration and Repair

Apart from the work undertaken under the supervision of the Conservation

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1. Ponchaud, F. Op.Cit. p.151. See also report of the Swedish Ambassador to Thailand, noting the use of the main square at Siem Reap as a pig farm, referred to in The Observer, 22 January 1978, p.2.
 2. Ponchaud, F. Op.Cit. p. 152.
 3. Meyer, K. 'The Plundered Past : The Traffic in Art Treasures', Hamish Hamilton, London, 1974, pp.142-144.

d'Angkor until 1972, the standards of restoration and repair of monuments and sites in the former Khmer Republic were extremely low. The present situation is unknown.

f) Unauthorised Excavations

Prior to the events of 1975, unauthorised excavations by local villagers were a cause of concern. The present situation is unknown.

g) Customary Use

The deposit of smoke, oil, grease and other substances on internal surfaces, as a result of cooking and lighting with paraffin and oil, causes discolouration.

h) Change of Use

As previously noted in sub-section (b), Buddhist temples, monasteries and other structures have been used for a variety of purposes since the events of 1975, such as store houses, barracks and pigsties.

i) Urbanisation and Encroachment

In the twelve months prior to the fall of the Government of the Khmer Republic in 1975, the population of Phnom Penh increased ten-fold as a result of the influx of refugees from the countryside. Since 1975, Phnom Penh and every other town of any size has been forcibly evacuated and abandoned to decay. Urbanisation is thus not a major problem in Khampouchea and is unlikely to be one for some time to come.¹

j) Fire Damage

Fire is a major cause of decay. Timber structures are particularly affected.

k) Pollution

Pollution is negligible in Khampouchea

1. Far Eastern Economic Review, 'Asia 1978 Yearbook', FEER, Hong Kong, December 1977, p.155.

1) War Damage

The exact extent of the damage caused to monuments and sites by high altitude bombing, rockets and artillery fire, between the first intervention of United States forces in the 'Parrot's Beak' area in May 1970 and the fall of the Government of the Khmer Republic in April 1975, is unknown and must remain a matter of speculation. According to reliable sources, Angkor was occupied by the Viet-Cong supported by North Vietnamese regular units on 6 June 1970.¹ Despite shelling by Government forces, which exploded in the upper portion of the Southern Gate and the ground floor gallery of Angkor Wat, destroying bas-reliefs,² the restoration and repair of monuments continued under the supervision of Bernard Philippe Groslier, Director of the Conservation d'Angkor at Siem Reap. Four work areas were able to function : Angkor Wat, Baphuon, Prasat Rong-Lmong, and the Elephant Terrace. For eighteen months experts and technicians were able to cross the frontlines, but as the war progressed, suspicion between Angkor and Siem Reap gradually increased until, on 21 January 1972, the Conservation d'Angkor's special privileges were withdrawn.³ Angkor was closed down. Building materials were seized and workmen were arrested.⁴ Reduced to one-quarter of their pre-1970 numbers, the staff of the Conservation d'Angkor then concentrated on the cataloguing and shipping of movable cultural property to Phnom Penh, and the crating and sand-bagging of cultural property in Siem Reap until March 1974 when, for reasons unknown, the Conservation d'Angkor was finally closed down by Phnom Penh officials.⁵ Thereafter, as the countryside came under the control of the North-Vietnamese backed Khmer Rouge, so the capital, Phnom Penh, came under increasing assault by rocket and artillery fire. The extent of the damage caused to the Royal Palace and the Silver Pagoda in the grounds is unknown, but is believed not to be extensive.⁶ Elsewhere, the Temple of Preah Vihear, whose steps are located on the very border itself between Khampouchea and Thailand, one hundred

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1. Division of Cultural Patrimony, Phnom Penh. 'Historical Monuments and Sites' (Country Report, Khmer Republic), in 'Proceedings of the Preparatory Conference on the Restoration and Animation of Historical Sites for the Purpose of Establishing the ARCAFA in Phnom Penh', 4-8 December 1972, APDO, Phnom Penh, 1973, pp.162-163.
 2. Burchett, W. 'My War with the CIA : The Memoirs of Prince Norodom Sihanouk', Penguin, London, 1974, p.100.
 3. Becker, E. 'Who Digs Angkor Now?', in The Guardian, 16 March 1974, p.3.
 4. Division of Cultural Patrimony, Phnom Penh. Op.Cit. p.163.
 5. Becker, E. Op.Cit. p.3.
 6. Ponchaud, F. Op.Cit. p.

and thirty kilometres south-west of Angkor, was fortified with mortars and mines and garrisoned by six hundred Government troops and their families, together with seven bonzes and six gardeners, in 1972.¹ This was done despite the protection extended to the monument under the provisions of the UNESCO Hague Convention on the Protection of Cultural Property in the Event of Armed Conflict of 1954, to which the former Khmer Republic was a signatory (Protocol and Convention) in 1962.² Fortunately, no attempt was made to storm the defences and the temple survived intact. At the beginning of the armed conflict, UNESCO experts were sent to aid the Government of the Khmer Republic in establishing a system of passive protection of monuments and sites (sand-bagging and other barriers) and assist in the protection of movable cultural property by transferring the most valuable objects to the National Museum in Phnom Penh, where shelving and specialised containers were provided. Publicity was also given to arouse world opinion and to encourage the combatants not to engage in armed conflict in the vicinity of Angkor.³ Alas, UNESCO's appeal fell on deaf ears and neither those directly engaged in the armed conflict (Vietnam and the Khmer Republic) nor those indirectly engaged (People's Republic of China, the Union of Soviet Socialist Republics and the United States of America) chose to respond. More recently, fierce border fighting has broken out in the 'Parrot's Beak' area between Vietnamese and Khampouchean regular forces.

Occasional Actions of Nature

a) Earthquakes and Landslides

Khampouchea is situated well to the east of the so-called 'trans-asiatic seismic zone', and earthquake activity is negligible. Landslides are not uncommon in upland areas during the Southwest Monsoon (June-September).

b) Volcanic Activity

Volcanic activity is negligible in Khampouchea.

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1. Woollacott, M. 'Cambodia's Temple Outpost', in The Guardian, 6 November 1974, pp.4.
 2. UNESCO, 'Conventions and Recommendations adopted under the auspices of Unesco', Ref.CL/2290, Annex II, pp.19-21.
 3. Daifuku, H. 'S.O.S. Angkor', in The Unesco Courier, December 1971, pp.4-5.

c) Flooding

Khampouchea is dominated by the Mekong and the Tonle Sap Lake, which is drained by the Tonle Sap River, a tributary of the Mekong. During the Southwest Monsoon (June-September), the Mekong rises rapidly and reverses the flow of the Tonle Sap River and raises the level of the Tonle Sap Lake, increasing its area from 3,000 to over 10,000 sq km. and causing widespread flooding.

d) Tsunamis

Khampouchea's short protected coastline is not subject to tsunamis.

e) Typhoons and Cyclones

Khampouchea's short protected coastline is rarely subject to typhoons and cyclones.

Prolonged Actions of Nature

a) Precipitation, Relative Humidity, Temperature and Wind

Precipitation, relative humidity and temperature are the three principal physical causes of decay. The effects of heavy rainfall on monuments and sites are, as previously noted in Section I : Intrinsic Causes of Decay (flooding, rising dampness, wet rot, insect attack, corrosion, etc.), to a large extent dependent upon location, materials and construction. Over prolonged periods, however, other changes of a physico-chemical, micro-biological and biological nature occur. These are noted in the following sections (b) to (g). Physical erosion by windborne particulates is negligible in Khampouchea.

b) Fungi and Mold

Fungi and mold disfigure many monuments and sites constructed of hygroscopic materials. At Angkor, for example, the oxidation of iron and manganese elements present in the sandstone as a result of the secretion of oxalic and citric acids by certain species of fungi and bacteria has caused the formation of incrustations of manganese oxide, which appear as black patches reminiscent of fire damage, and ferric oxide, which

appear as rust-stains. In association with water, the matrix of the sandstone is broken down to form gypsum. Thereafter decay is rapid, the carved surfaces of columns, door and window frames, bas-reliefs and balustrades flaking away.¹

c) Moss and Lichen

Moss, lichen and algae, which develop equally well on the surface of hygroscopic materials, such as the sandstone structures at Angkor, disfigure many monuments and sites by the formation of 'pustules' and 'pocking' of the surface of the stone. Algae, which only develops in particularly damp situations, causes discolouration but does not erode the surface of the affected stonework. It does, however, encourage the development of erosive bacteria.²

d) Plants and Trees

Plants and trees flourish in the hot and wet conditions prevailing at Angkor during the Southwest Monsoon (June-September) and many monuments and sites are overgrown and in danger of destruction as a result of mechanical damage caused by tree root growth, which in extreme cases completely encases and penetrates structures dislodging the weighty stone blocks.³ The principal species causing the damage are : a) Fromagers (Silk Cotton); b) *Ficus pilosa*, *F. indica* and *F. religiosa* (Banyan); and *Opuntia vulgaris* (Indian Fig). The extraordinary conditions prevailing at the site have been described by one observer as follows :

'...The long, sinuous roots are intelligent and fluid as water, seeking out cracks and fissures with supernatural precision, and gradually prising apart blocks and slabs of stone and laterite. Some roots flatten out into bland folds, like white, spreading lava. Others form a dense lacis on walls bulging with terrified dreams of disintegration and collapse, and that are only held up by the octopus-like tentacles that both preserve and destroy them. Ledges are laced with the finer roots of stubborn weeds and giant ferns. One is constantly stumbling over roots, lianas, dislocated steps, ruptured pavement slabs, dead branches and trunks riddled with ants and termites...' ⁴

1. Fusey, P. and Hyvert, Giselle. Op.Cit. pp.42-43.

2. Fusey, P. and Hyvert, Giselle. Op.Cit. pp.43-44.

3. Fusey, P. and Hyvert, Giselle. Op.Cit. pp.44-45.

4. Kirkup, J. 'Streets of Asia', J.M. Dent, London, 1969, pp.154.

Prolonged Actions of Nature (cont.)

The canals and barays (tanks) at Angkor are also overgrown with weeds and grasses. Elsewhere, at Phnom Penh, Battambang, Siem Reap and other sites, ferns grown from wall-heads and block gutters, opening joints and causing water penetration. The situation is aggravated by the total lack of maintenance since the events of 1975.

e) Insects

Because of the paucity of timber structures at Angkor, insect infestation is not a major cause of concern, but elsewhere, at Phnom Penh, Battambang, Siem Reap and other sites, timber structures (temples, monasteries, palaces and ancillary structures) are common and insect infestation is widespread. Drywood termites (Kalotermitidae) and other free-flying pests, such as powder-post beetles (Lyctidae and Bostrychidae), make their homes within the sapwood of the timber attacked. Subterranean or soil termites (Hodotermitidae, Rhinotermitidae and Termitidae), known locally as 'white ants', are more numerous and widespread, but need to maintain contact with the ground. The situation is aggravated by the total lack of maintenance since the events of 1975.

f) Birds and Bats

Nesting birds and bats cause physical damage by burrowing. Their excrement also causes chemical damage due to the presence of bacteria.

g) Animals

Domestic animals (pigs and goats) cause physical damage by their foraging and chemical damage by their excrement. Rats and other vermin also cause chemical damage by their excrement. The problem is particularly acute at Angkor and other abandoned sites.

FIG.103 KHAMPOUCHEA - CAUSES OF DECAY

INTRINSIC CAUSES	LOCATION	Microclimate	●
		Subsoil Conditions	●
		Drainage	●
	MATERIALS	Timber and Bamboo	
		Stone	●
		Mud and Unbaked Brick	
		Baked Brick and Terracotta	
		Binding Materials	
		Metal	
		Stucco and Other Finishes	●
	CONSTRUCTION	Ornamentation and Wall Painting	
		Substructure	●
		Superstructure	
EXTRINSIC CAUSES	ACTIONS OF MAN	Lack of Maintenance	●
		Abandonment and Squatting	●
		Robbery and Vandalism	●
		Alteration and Demolition	
		Faulty Restoration and Repair	●
		Unauthorised Excavations	●
		Customary Use	
		Change of Use	●
		Urbanisation and Encroachment	
		Fire Damage	
		Pollution	
		War	●
	OCCASIONAL ACTIONS OF NATURE	Earthquakes and Landslides	
		Volcanic Activity	
		Flooding	
		Tsunamis	
		Typhoons and Cyclones	
	PROLONGED ACTIONS OF NATURE	Precipitation	●
		Relative Humidity	●
		Temperature	●
		Wind	
		Fungi and Mold	●
		Moss and Lichen	●
		Plants and Trees	●
		Insects	
		Birds and Bats	●
		Animals	●



Fig. 104 Khampouchea - Bayon, Angkor (12-13th-century). Arresting towers of Angkor Thom (discolouration caused by incrustations of manganese dioxide).

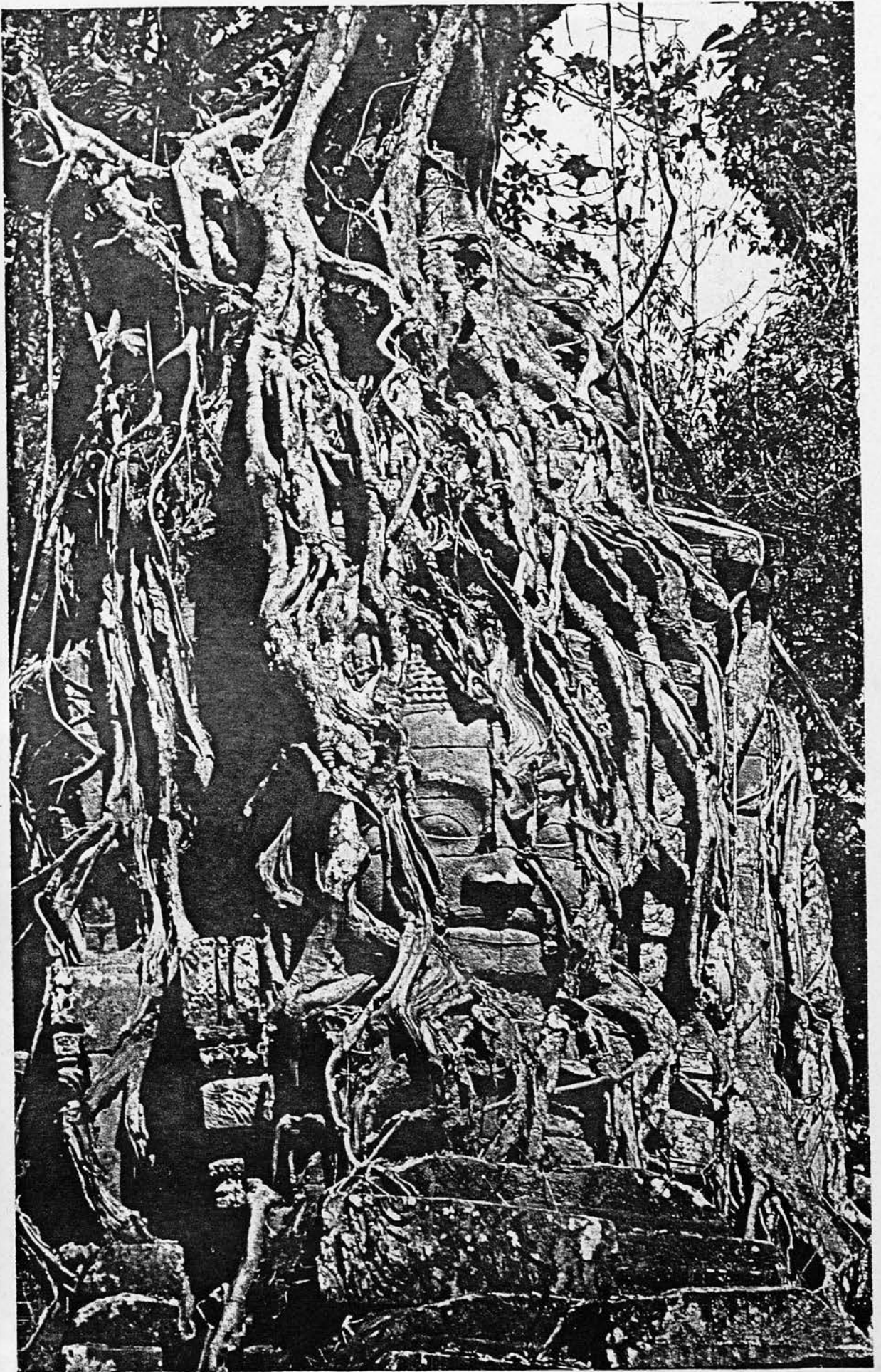


Fig.105 Khempouchea - Ta Som, Angkor. One of four faces of tower in the stranglehold of so-called 'fig tree' (*Ficus Religiosa* or *Indica*) (Source : Unesco).

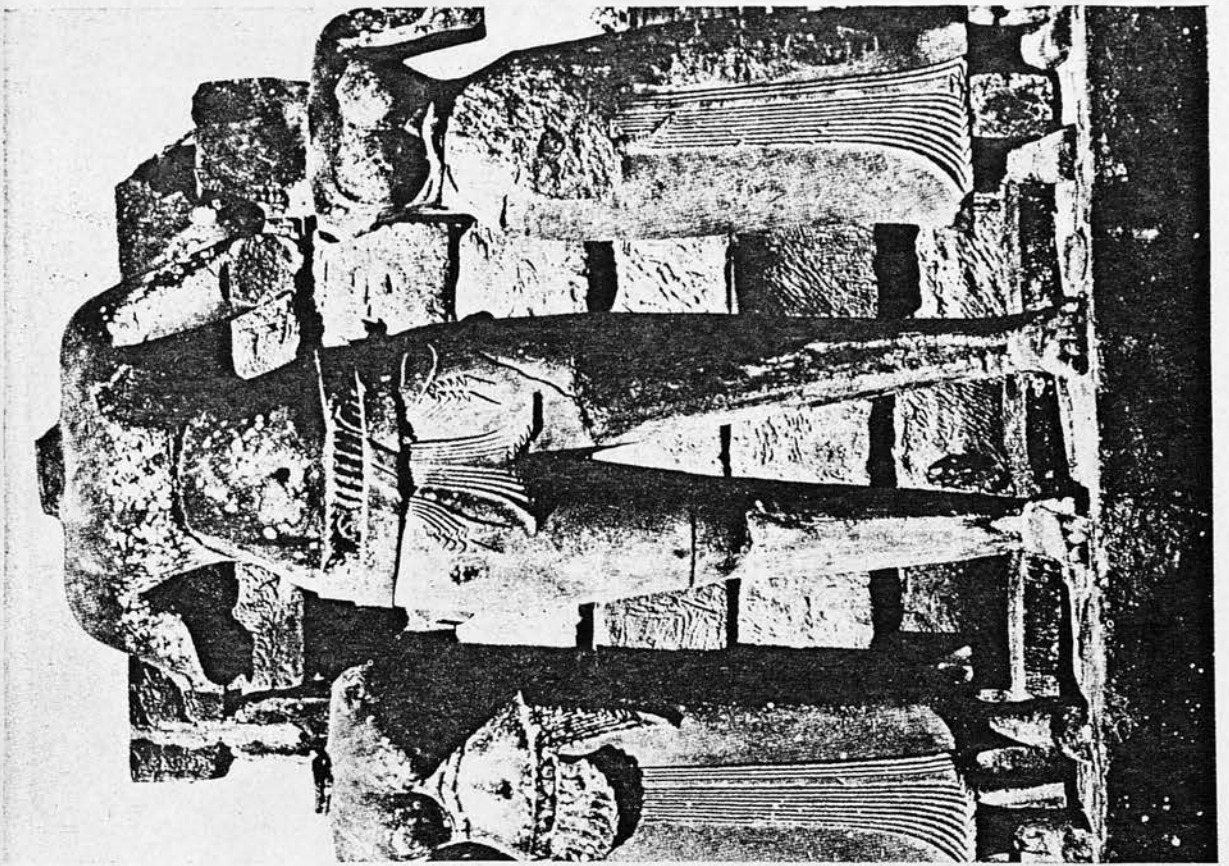


Fig.106 Khampouchea - Bakong, Angkor. Indravarman with his wives. Sandstone (height 130 cm). Decapitated and decayed as a result of micro-biological and chemical attack.

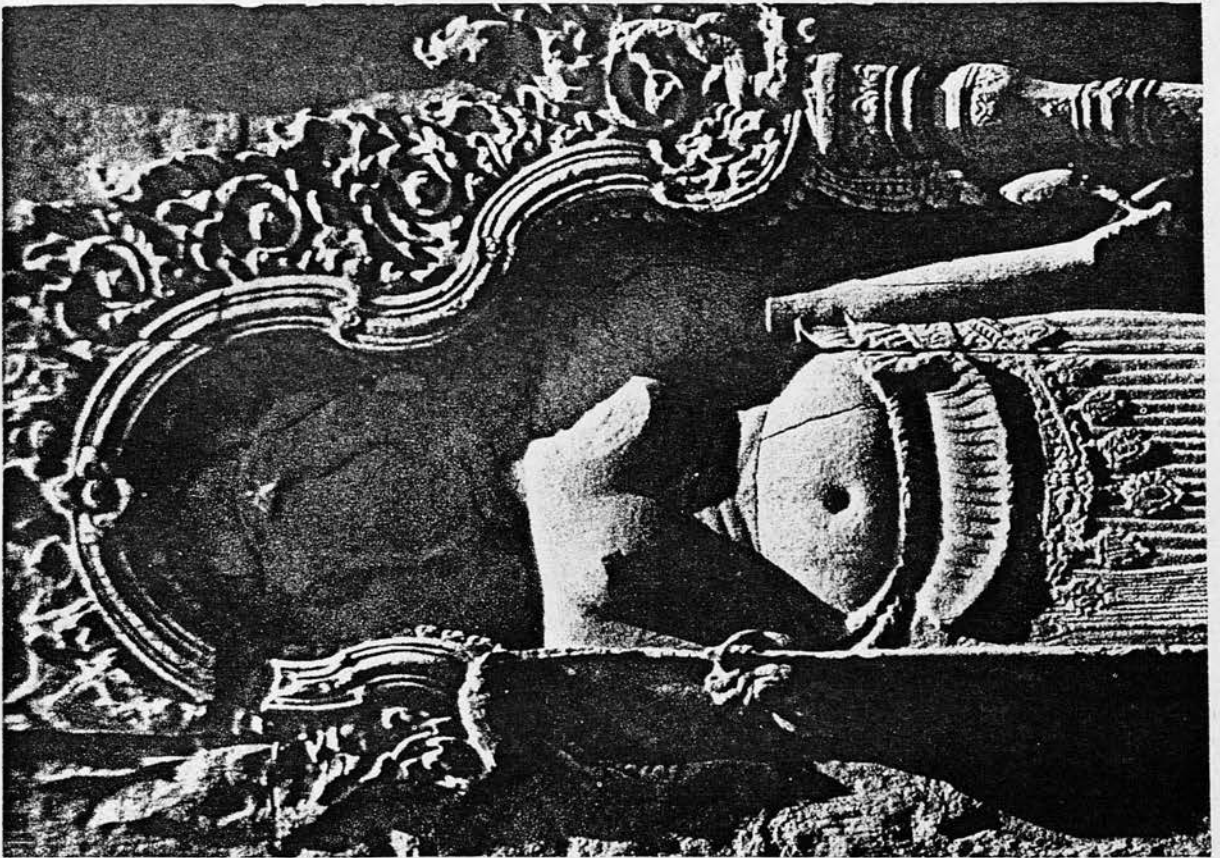


Fig.107 Khampouchea - Koh Ker, Angkor. Heavenly girl carved in relief. Sandstone (height 103 cm). Stonework eroded and spalled.

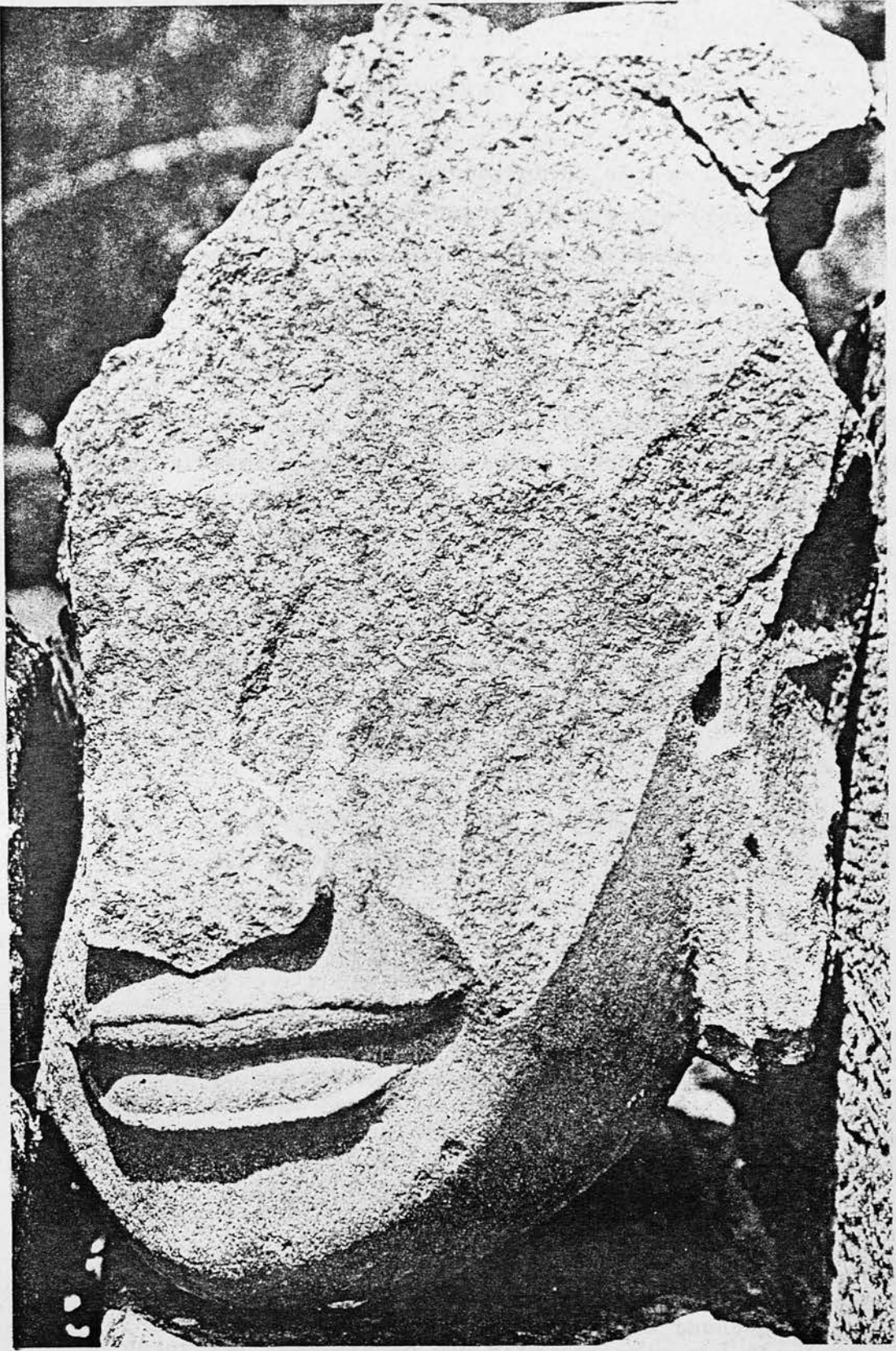


Fig.108 Khampouchea - Elephant Terrace, Angkor Thom. Detail of damaged Buddha.

1. HISTORICAL EVOLUTION OF GUIDING PRINCIPLES

The revelation and subsequent conservation of the archaeological and architectural heritage of Indo-China - Kampuchea (formerly Cambodia), Laos and Vietnam - was a uniquely French achievement involving some of the greatest nineteenth and twentieth century scholars.

The only eye-witness account of the Khmer kingdom known to exist, is Chou Ta-kuan's 'Notes on the Customs of Cambodia', written in 1296 by a member of a Chinese embassy who spent a year at Angkor when the court was at the height of its splendour. Chou's keenly perceptive and highly detailed account of Cambodia soon became known throughout China, but it was not until 1819 that Abel Remusat's partial translation of the work was published in Europe. A further century was to pass before the work was published in full by the eminent French orientalist Paul Pelliot in 1902, and it was not until 1967 that Pelliot's translation was translated into English by J. Gilman d'Arcy Paul.¹

To the Chinese, the country was known as Ch'en-la or Ch'an-la. To its inhabitants it was known as Kan-po-chih or Kam-boja, but to the court, which drew on Tibetan religious lore, it was known as Kan-p'u-chih. In his description of Angkor, Chou notes that :

'...The Royal Palace, as well as official buildings and homes of the nobles, all face to the east. The Royal Palace stands to the north of the Golden Tower and the Bridge of Gold. In the chamber where the Sovereign stands to affairs of state, there is a golden window, with mirrors disposed on square columns to the right and left of the window, forty or so in number. Below the window is a frieze of elephants...'; and

'...the New Year begins with the tenth Chinese moon, and is called chia-te. In front of the Royal Palace a great platform is erected, sufficient to hold more than a thousand persons, and decorated from end to end with lanterns and flowers. Opposite this, some hundred and twenty feet distant, rises a lofty scaffold, put together of light piecec of wood, shaped like the scaffolds used in building stupas, and towering to a height of one hundred and twenty feet. Every night from three to six of these structures arise. Rockets and fire crackers are placed on top of these - all this at great expense to the provinces and the noble families. As night comes on, the King

1. Gilman d'Arcy Paul, J. 'Notes on the Customs of Cambodia', Social Science Association Press, Bangkok, 1967.

is besought to take part in the spectacle. The rockets are fired, and the crackers touched off. The rockets can be seen at a distance of thirteen kilometres : the fire crackers, large as swivel-guns, shake the whole city with their explosions...'

The first European traveller to visit Cambodia, the Dominican Father Gaspar da Cruz, reached Angkor in 1555 - a century after it had been overrun and sacked by the Siamese. Thirty years later, in 1585, the Portuguese friar, Father Antonio de la Magdalena, visited Angkor, where he remained for four years in an unsuccessful attempt to convert the court to Roman Catholicism. Both missionaries recorded their experiences but neither was published, so that a further two centuries were to pass before Europe was to become aware of the achievements of the Khmer civilisation - particularly in the fields of engineering and agriculture - by the publication, in 1768, of Pierre Poivre's 'Voyages d'un Philosophe'.

Abel Remusat's partial translation of Chou ta-kuan's 'Notes on the Customs of Cambodia' in 1819 brought the Khmer kingdom to the attention of the French public for the first time. Then, in 1860, Henri Mouhot, the naturalist and adventurer, discovered Angkor which, by this time, had been completely abandoned to the jungle and forgotten about. In his 'Le Tour de Monde', published in 1863, he wrote of :

'...Ruins so imposing, the fruits of such prodigious labour that on seeing them we are seized with the profoundest admiration...ruins which stand comparison with our finest churches, and which surpass in grandeur all that the art of the Greeks and the Romans ever achieved...'

The first photographs of Angkor were taken by the Scottish explorer, John Thomson, in 1866. In the same year Doudart de Lagree also visited Angkor while undertaking his celebrated survey of the Mekong, and his fellow-traveller Francis Garnier caused translations to be made of the Cambodian Royal Chronicles. Seven years later, in 1873, Garnier's 'Voyage d'exploration en Indo-Chine, effectue pendant les annees 1866, 1867 a 1868' was published, and was to provide the principal source of material for illustrations of 'lost cities' for generations to come. In the same year, Louis Delaporte, a former member of Lagree's expedition and associate of Garnier, was appointed leader of the French

'Expedition de l'Investigation des monuments Khmer'. Delaporte surveyed a number of monuments at Angkor, collected inscriptions and made plaster casts of bas-reliefs, all of which were subsequently exhibited at the Paris Trocadero. - the first museum to be devoted to the antiquities of Indo-China. In 1875, the first inventory of Khmer monuments was published by Comte de Crozier.

The 1870s and 1880s were a particularly fruitful period for Khmer studies. Auguste Barth and Abel Bergaigne published translations of Sanskrit inscriptions from many sites which yielded a considerable quantity of information about the history of the Khmer kingdom, and the first general history of Cambodia was published by Jean Moura, the French Resident at Phnom-Penh. His successor, Etienne Aymonier, sent rubbings of inscriptions and other material to Paris and then, having learnt Sanskrit, in the great tradition of amateur antiquarianism, translated ancient Khmer and Champa texts in French. With the assistance of Bergaigne, he laid the foundations of Khmer epigraphy and, in his classic three-volume 'Cambodge', published between 1901 and 1904, he outlined the state of knowledge of Khmer studies at the end of the nineteenth century. It remains a valuable source of information today, not least of all for its comprehensive inventory of Khmer monuments, which was not entirely superseded by Lunet de Lajonquiere's 'l'Inventaire descriptif des monuments de Cambodge', published in three volumes between 1902 and 1912.

In 1898, Auguste Barth, Abel Bergaigne and Louis Breal founded the Ecole française d'extreme-orient (EFEO) at Saigon. Shortly afterwards, the EFEO was removed to Hanoi by Paul Doumer, founder of the Geographical and Geological Services of Indo-China, and in 1900 it became the Directorate of Museums and Historical Monuments of Indo-China. Henceforward, research throughout Indo-China was placed upon a properly administered and organised basis. The foundation of the Conservation d'Angkor in 1908 marked a turning point in the conservation of Cambodia's heritage of monuments and sites.

Henri Parmentier was appointed Head of the Archaeological Service of the EFEO and Jean Commaille was appointed Curator at Angkor. Parmentier's first task was to complete Lajonquiere's 'Inventaire'. Later he was to

publish a series of outstanding studies of Khmer art, beginning in 1927 with his 'L'Art khmer primitif', and ending in 1939 with his 'L'Art khmer classique'. At Angkor, Commaille began to clear the jungle that still engulfed the ruins and prepared the first guide book to Angkor. In 1916 he was tragically assassinated. His successor, Henri Marchal, occupied the post of Curator until 1932. Marchal, who followed with keen interest the pioneering work being done in Java by F.D.K. Bosch on the application of anastylosis techniques to the reconstruction of ruined monuments, took care to avoid the 'unity of style' approach to restoration which had been founded in France a century earlier by Prosper Merimee and Viollet-le-Duc and which was still applied with vigour by the Service des Monuments Historique.¹

In 1920, Marchal restored the Giants flanking the approach road to the Victory Gate of Angkor Thom, but it was not until 1932, that he first applied the anastylosis technique to the restoration of the Banteay-Srei with such spectacular results. His successor, Georges Trouve, achieved similarly successful results with the reconstruction of the Bayon between 1932 and 1935. Later curators, such as Maurice Glaize, Jean Boisselier and Jean Laur, developed and refined the technique, achieving astonishingly successful results at Angkor-Thom, Banteay-Samre, Neak-Poan, the Bakong and the towers of the Bayon.

Popular interest in Cambodia reached an all time height during the 1920s, when Andre Malraux was imprisoned at Phnom Penh charged with stealing antiquities. Malraux arrived in Cambodia late in 1923 with Louis Chevasson, and together they travelled by ox-cart to Banteay-Drei where, over a period of months, they carefully dismantled more than one thousand kilograms of carved stonework. The material was then placed on board a steamer for transportation to Phnom Penh, at which point an EFEO official intervened and arrested the two Frenchmen on charges of stealing antiquities. Both men were put on trial at Phnom Penh in July 1924 and found guilty - Malraux was sentenced to three years imprisonment, Chevasson to eighteen months. Malraux's wife, Clara, who had accompanied him to Cambodia, returned to France to mobilise support for him. Among the petitioners for Malraux's freedom were some of the leading French intellectuals of the time - Andre Gide, Anatole France, Louis Aragon, Andre Breton,

1. In less than twenty years, Marchal revealed over eight hundred monuments and sites.

Francois Mauriac, Andre Maurois and Roger Martin du Gard. Eventually, Malraux was released as a result of a successful appeal made to the Court of Cassation in Paris but to his disappointment he was unable to establish his title to the antiquities. Instead, they were transferred to the collection of the Musee d'Art d'Histoire et d'Archeologie (Musee du Cambodge).¹

The first museum devoted to Khmer antiquities, the Musee Khmer, was established at Phnom Penh in 1905.² The museum, which was under the jurisdiction of the Head of the Archaeological Service of the EFEO, was responsible for :

'...centralising the disjointed (sic) sculptures and ancient objects found after the excavations or after such other work carried out in Cambodia and the preservation of which presents artistic, historical and ethnographical value, and could not be appropriately safeguarded at the places where they were found because of their isolation, their matter or their size...'

Following the establishment of the L'Ecole des arts du Cambodge in 1917, the Musee Khmer was reorganised to form the Musee du Cambodge.³ Later, it was renamed as the Musee Albert Sarraut, in honour of the then French Governor-General who inaugurated the new buildings in 1920.

Parallel with the restoration and reconstruction work undertaken at Angkor by the Conservation D'Angkor, and the development of museum services, the Archaeological Service of the EFEO conducted a systematic survey of the art and architecture of Cambodia, the result of which was a drastic reappraisal of the chronology of Angkor. The work of three scholars, Philippe Stern, George Coedes and Gilberte de Coral-Remusat, stand out as being of particular importance during this period. Stern's 'Le Bayon d'Angkor et l'evolution de l'art Khmer', published in 1927, analysed the styles of Khmer architecture. Coedes' classic nine-volume analysis of Cambodian inscriptions established the epigraphical basis of Khmer chronology. Coral-Remusat's 'L'art khmer, les grandes etapes de son evolution', published in 1940, analysed the artistic and architectural styles of the Khmer kingdom from the seventh to the early thirteenth century.

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1. Malraux later described the incident in his novel 'The Royal Way', published in 1930.
 2. Arrete du 3 octobre 1905, Journal Officiel de l'Indochine Francaise, JOIF, 1905 p. 1165.
 3. Arrete du 12 aout 1919, JOIF, 1919, p.1776.

The events of 1942-45 and the ensuing independence movement put an abrupt stop to the work of the EFEO in Cambodia until 1951, when the responsibility for conserving the nation's heritage of monuments and sites was officially transferred to the Ministry of National Education and Fine Arts of the newly-independent Government of Cambodia. Thereafter, the EFEO worked in partnership with the Cambodian Government. The Musee Albert Sarraut was reorganised to form the Musee national du Cambodge, but it remained under the authority of an officer of the EFEO until 1966. The Conservation d'Angkor was reorganised in 1960 as an independent body, jointly sponsored by the governments of France and Cambodia, under the direction of Bernard Philippe Groslier. In 1962, Groslier brought to light the remains of a vast neolithic fortified camp at Prek-Chhlong in Kompong-Cham province. Three years later, in 1965, he unearthed bronze age finds (bracelets, necklaces) and decorated pottery beneath the foundations of the Baksei-Chamrong temple at Angkor. The anastylosis technique was refined further by Groslier to enable it to be applied to brick structures for the first time, and between 1960 and 1970, the Prasat-Kravan, the Sambor-Prei-kuk and the sanctuaries surrounding the Phnom Bak-heng were reconstructed. The pavement at Angkor Thom, the bridge at Kompong-Kdei, the elephant terrace and west pavement at Angkor Wat, the Baphuon and the Thommanon were also reconstructed using the well-established anastylosis technique perfected by Marchal between 1916 and 1932. Two specialists, Mme. Solange de Vangirard and Jean Michel Andre, the former on bronze restoration, the latter on stonework, were also attached to Conservation d'Angkor during this period.

On 6 June 1970, Angkor was overrun and occupied by the Khmer Rouge, effectively cutting-off the site from the headquarters of Conservation d'Angkor at Siem Reap, eight kilometres distant, which remained in the control of government forces. A special arrangement was subsequently made between the opposing forces which enabled one expert to pass through the lines each day, and in this way conservation work continued at Prasat Rong-Lmong and Preah-Einkosei until, on 20 January 1972, the Viet-cong forced work to a standstill, arresting workmen and technicians and seizing building materials and equipment. During their period of grace, the staff concentrated upon the sand-bagging of monuments - many of which had been damaged during the occupation by artillery fire - and the evacuation of antiquities from storage at Siem Reap to the Musee National du Cambodge at Phnom Penh. After closure of the site, Groslier and his team were forced to leave Cambodia - ending a century long tradition of French participation in the conservation of the country's cultural heritage.

2. POLICY AND PROGRAMMES

National Conservation Policy

The 1954 UNESCO Convention and Protocol for the Protection of Cultural Property in the Event of Armed Conflict (the Hague Convention) were both ratified by the Government of the former Kingdom of Cambodia on 4 April 1962; and the 1970 UNESCO Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property was ratified eight years later, by the successor Government of the Khmer Republic on 26 September 1972. However, prior to the fall of the Government of the Khmer Republic and the establishment of the Government of Democratic Khampouchea, the 1972 UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage, was not ratified.

The Khmer Republic did not have a national conservation policy, and because of the massive financial burden of the war between 1970 and 1975, the conservation of the nation's heritage of monuments and sites was relegated to a position of relative insignificance.

Conservation Programmes

Apart from the work of the Conservation d'Angkor at Prasat Rong Lmong and Preah Einkosei, between 1970 and 1972, no research or conservation programmes of any significance were undertaken by the Government of the Khmer Republic up until the time of its fall in April 1975. Nonetheless, an ambitious programme was published by the Division of Cultural Patrimony of the Ministry of Culture in 1972 :

1. Review of existing legislation and drafting of new conservation legislation reflecting UNESCO recommendations and conventions and Asian field conditions;
2. Preparation of systematic inventory of prehistoric sites currently protected under provisions of July 1925 Statute;
3. Creation of eight regional offices to oversee archaeological sites;
4. Revision of boundaries of Angkor Park and coordination of building activities within precincts;



Fig.111 Khampouchea - The Bayon, Angkor Thom. Detail of four-headed tower showing (left) encrustations of manganese oxide giving appearance of fire damage, and (right) similar image after chemical cleaning and treatment with fungicide.

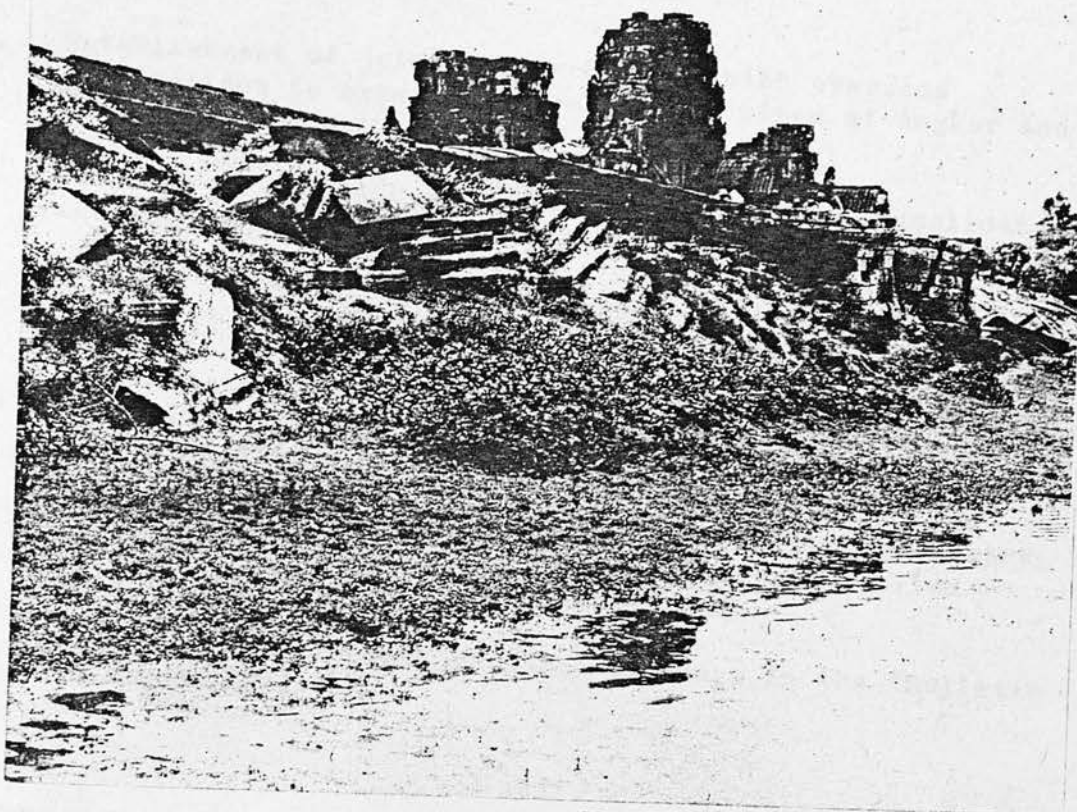


Fig. 109 Khampouchea - Angkor Wat, Angkor. Collapsed staircase caused by water infiltrating from nearby ornamental lake) before restoration by Conservation d'Angkor.

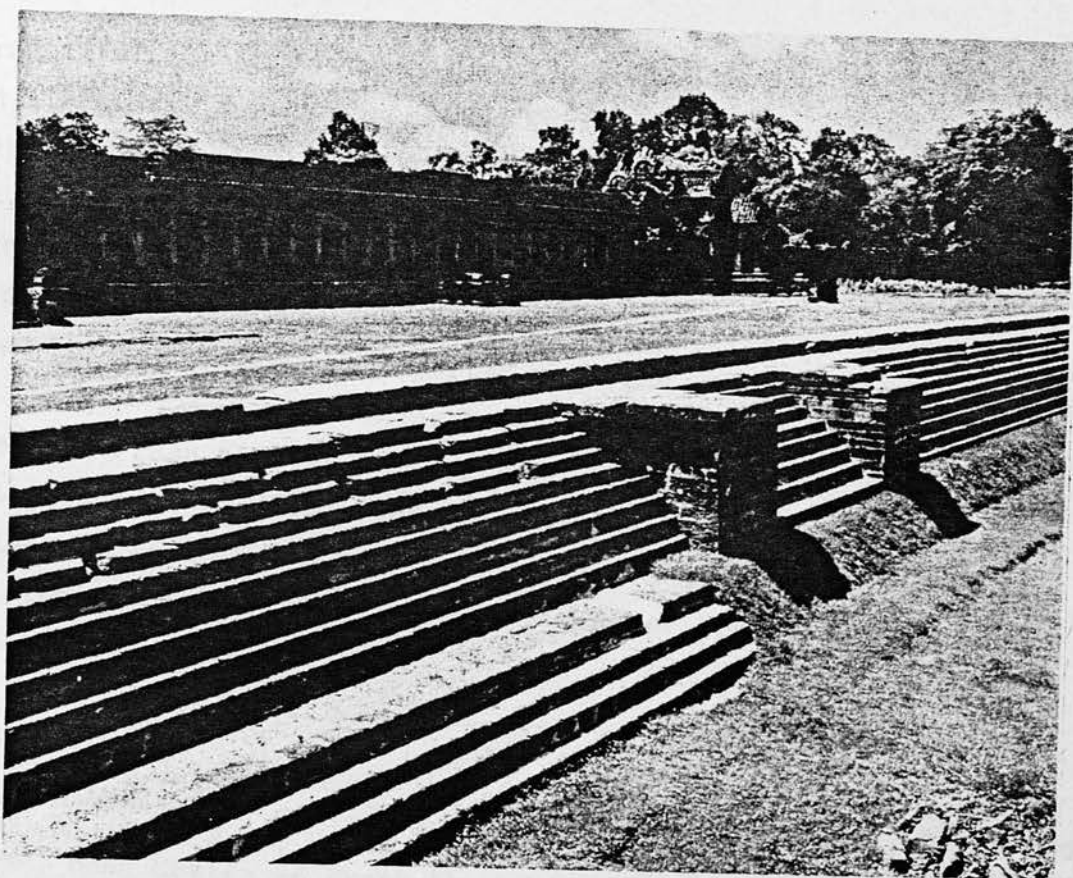


Fig. 110 Khampouchea - Angkor Wat, Angkor. Staircase after reconstruction by Conservation d'Angkor using anastylosis technique (new foundations and drainage system).

5. Establishment of joint research teams with overseas institutions to excavate miscellaneous sites at Angkor and Sambor Prei Kuk;
6. Creation of national commission to revise and consolidate the national inventory of historic monuments;
7. Restoration of Banteay Chman at Battambang and other sites at Angkor;
8. Implementation of UNESCO mission recommendations at Kulen, Sambor Prei Kuk, Koh Ker, Beng Mealea and Preah Khan of Kompong Svay;
9. Establishment of Laboratory facilities for photogrammetry, carbon dating, chemical and physical analysis, pollen analysis and archaeological mapping; and
10. Publication of previous research findings in the 'Bulletin des Etudes Khmeres'.

3. INTERNATIONAL TECHNICAL COOPERATION

International Governmental Agencies

The Government of the Khmer Republic was a member of the United Nations (U.N) and its sister agency the United Nations Educational Scientific and Cultural Organisation (UNESCO) up until 1975. In 1967, UNESCO sent Mlle. J. Auboyer of the Musee Guimet, Paris, to Cambodia to report upon the development of cultural tourism at Preah Khan, Kompong Svay.¹ Her mission lasted two months and was immediately followed by a second mission led by Erik Hansen who reported upon the conservation of five groups of Khmer monuments at Sambor Prey Kuk, Phnom Kulen, Koh Ker, Benh Mealea and Preah Khan at Kompong Svay.² The following year, Hansen returned to Cambodia to report the arrangements for the conservation of Phnom Kulen.³ Apart from these specialist missions, UNESCO has also provided technical equipment for the treatment of bronze disease by the National Museum at Phnom Penh.

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1. Auboyer, Mlle.J. 'Cambodge : Mise en valeur de temples de Preah Khan de Kompong Svay', UNESCO, Serial No.485/BMS.RD/CLT), Paris 1968.
 2. Hansen, E. 'Cambodge : Conservation de Sambor Prey Kuk, Phnom Kulen, Koh Ker, Beng Mealea et Preah Khan de Kompong Svay', UNESCO, Serial No.1209/BMS.RD/CLT), Paris 1969.
 3. Hansen, E. 'Cambodge : Phnom Kulen Arrangement', UNESCO, Serial No. 1478/BMS.RD/CLT), Paris 1969.

International Governmental Agencies (cont.)

The former Government of the Khmer Republic was also a Member State of the Southeast Asian Ministers of Education Organisation (SEAMEO), and was approved by the other Member States to be the host country to the Applied Research Centre for Archaeology and Fine Arts (ARCAFA).

ARCAFA Project Development Office (APDO), Phnom Penh

The creation of the Applied Research Centre for Archaeology and Fine Arts (ARCAFA) at Phnom Penh was first proposed by the Khmer delegation to the Sixth South-east Asian Ministers of Education Council (SEAMEC) Conference meeting at Saigon in January 1971, the year in which the Government of the Khmer Republic joined the Southeast Asian Ministers of Education Organisation (SEAMEO). The proposal was agreed to in principle by the Conference and, following the submission of a favourable report by a team sent by the Secretariat of SEAMEO to Phnom Penh to undertake a feasibility study of the proposal, the proposal was formally approved by the Seventh SEAMEC Conference meeting at Vientiane in January 1972. The Conference also adopted a resolution recommending that a Preparatory Conference on the Restoration and Animation of Historical Sites for the Purpose of Establishing the ARCAFA be jointly convened by SEAMES and the Government of the Khmer Republic, '...to find realities and problems involved in archaeological studies in the region for the purpose of establishing the Applied Research Centre for Archaeology and Fine Arts in Phnom Penh, Khmer Republic...'.¹

Meeting at Phnom Penh in December 1972, the Preparatory Conference resolved :

- '1. Unanimously recommends the creation of ARCAFA in Phnom Penh;
2. Acknowledging the generous offer of the Khmer Republic, requests this country to help in the establishment of ARCAFA;
3. Requests assistance from SEAMEC in the initiation of this project;
4. Recommends that the first body of ARCAFA to be the Project Development Office; and

1. ARCAFA Project Development Office, 'SEAMEO's Applied Research Centre in Archaeology and Fine Arts : A Project of South East Asian Cooperation', APDO, Phnom Penh, December 1973.

5. Requests that this office, with the assistance of the member countries of SEAMEO, undertakes its tasks in accordance with the guidelines adopted by this Conference.' ¹

Two months later, in January 1973, the Eighth SEAMEC Conference, meeting at Phnom Penh, approved the programme submitted by the Khmer delegation for the establishment of the ARCAFA Project Development Office (APDO) at Phnom Penh. Two years later, at the Tenth SEAMEC Conference, meeting at Baguio in January 1975, the Project Development Plan for the proposed ARCAFA, prepared by the ARCAFA Project Development Office (APDO), was approved by the Council of SEAMEO.

The Project Development Plan, which covered the five year period from January 1975 until December 1979, sought to develop the undernoted functions of the ARCAFA :

1. Research and diffusion of techniques and methods of restoration and conservation of movable and immovable cultural properties;
2. Research and diffusion of techniques and methods in archaeological and prehistorical excavation;
3. Research and diffusion of techniques and methods in conservation of fine arts;
4. To provide studies and scholarships or fellowships for students from countries in the region;
5. To promote research programmes related to the needs and problems of Southeast Asia;
6. To serve as a clearing house for providing documentation collected and translated into English and French;
7. To provide information concerning activities in the region in order to disseminate knowledge in archaeology to institutions and agencies;
8. To help organise seminars and instructional courses on selected and pressing archaeological problems, needs and topics; and
9. To stimulate and assist further development of archaeological institutions in Southeast Asia.

1. SEAMEO, 'Proceedings of the Preparatory Conference on the Restoration and Animation of Historical Sites for the Purposes of Establishing the ARCAFA', 4-8 December 1972, Phnom Penh, APDO, 1973.

The fall of the Government of the Khmer Republic, shortly after the Tenth SEAMEC Conference, caused the ARCAFA Project Development Office (APDO) at Phnom Penh to be permanently closed down, preventing the implementation of the ARCAFA Project Development Plan. Meeting at Singapore in January 1976, the Eleventh SEAMEC Conference resolved that henceforward SEAMEO's activities in the fields of archaeology and fine arts be continued, for the time being, outwith the framework of ARCAFA.¹

Nonetheless, during the two years of its effective operation, the ARCAFA Project Development Office (APDO) at Phnom Penh undertook a considerable amount of useful research in the field of conservation :

1. Analysis of country reports and data presented to the ARCAFA Preparatory Conference in 1972, to establish :
 - a) available resources,
 - b) prevailing problems, and
 - c) requirements of member countries;
2. Analysis of recommendations, including those of specialist sub-committees, to determine their relationship to the requirements of the member countries; and
3. Identification of activities not dealt with in detail by the ARCAFA Preparatory Conference, such as :
 - a) fine arts,
 - b) archives and inventories, and
 - c) conservation legislation and conventions.

The results were published by the ARCAFA Project Development Office (APDO) at Phnom Penh between 1972 and 1974.

International Non-Governmental Agencies

The former Khmer Republic did not have a national committee for either the International Council of Museums (ICOM) or the International Council on Monuments and Sites (ICOMOS). The present situation remains unchanged.

1. SEAMES, 'Report of the SPAFA Task Force', SEAMEO, Bangkok, July 1976, pp.3-7.

Bilateral Governmental Technical Cooperation

The French Government provided the Government of the Khmer Republic with the technical assistance of a number of French experts up until 1972, including :

1. Bernard Philippe Groslier, formerly of the Ecole Francaise d'Extreme-Orient (EFE0), and director of the Conservation d'Angkor from 1960 until 1972;
2. Mlle. Solange and Jean Michel Andre, experts on the conservation of bronze and stone respectively, were assigned to the Conservation d'Angkor from 1960 onwards and trained three Khmer restorers during their mission;
3. Jean Ellul, formerly of the Ecole Francaise d'Extreme-Orient (EFE0);
4. Mlle. J. Auboyer, of the Musee Guimet, Paris; and
5. Mlle. Giselle Hyvert, the authority on the bio-deterioration of stone.

Private Foundations

The Ford Foundation and the Asia Foundation have both contributed to the conservation of the former Khmer Republic's cultural heritage through their respective aid programmes in Asia. Under the provisions of its Art and Archaeology Programme, the Ford Foundation provided photographic supplies to the National Museum at Phnom Penh, for the recording of undocumented objects, and prior to the fall of the Government of the Khmer Republic in April 1975, financial support had been promised for the creation of the ARCAFA Project Development Office (APDO) at Phnom Penh. The Ford Foundation also financed the Mekong Archaeological Survey, under the direction of Otago University, New Zealand, which identified a number of sites, but none important enough to warrant delaying the proposed damming of the river. Four Khmer trainees employed on the Survey were regrettably made homeless as a result of the events of April 1975, but have since found sanctuary in France, New Zealand and the United States of America.¹

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1. Lyons, E. 'A Survey of the Art and Archaeology DAP : Southeast Asia', (Confidential memorandum reviewing the October 1974 to September 1976 period of support), The Ford Foundation, Bangkok, February 1977, pp.4-7.

1. LEGISLATION

Legislation relative to the classification, conservation and protection of cultural property in Cambodia - known as the Khmer Republic from 1955 until 1975, and since known as Kham-pouchea - is almost entirely French in origin, dating from the period 1900-1940. Krets (royal decrees) and constitutional changes have amended the law over the last fifty years, but in general, the law remains relatively unchanged from the days when Cambodia - together with Laos and Vietnam - formed the French colony of Indochine.¹

The first statute to extend legislative protection to '...monuments and objects having an historic or artistic interest...' in Cambodia was the Statute of 9 March 1900.² Five years later, the Statute of 15 April 1905 provided for the classification of the said monuments and objects.³ The Statute of 18 May 1908 extended the provisions of the Statute of 9 March 1900 to include '...the totality of the buildings, inscriptions and ancient objects of Cambodian origin situated in the territories of Siemreap, Sisophon and Battambang...'.⁴ Three years later, the Royal Ordinance of 31 March 1911 protected the setting of the ruins at Angkor.⁵ A second Royal Ordinance, of 11 October 1923, determined the conditions of classification of monuments and objects under the said Statute of 15 April 1905.⁶ The principal law relative to the classification and protection of historic monuments in Cambodia was introduced by the Statute of 15 February 1925,⁷ which promulgated the Decree of 23 December 1924 to extend to Indo-China, subject to terms and conditions, the French domestic Law of 31 December 1913.⁸ The Statute of 30 April 1925 regulated the precise application of the Decree of 23 December 1924,⁹ and the Statute of 11 July 1925 regulated the classification, conservation and protection of monuments under the Decree of 23 December 1924.¹⁰ The Royal Decree of 6 November 1935 amended the Royal Decree of 11 October 1923.¹¹

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1. Indo-China.
 2. Arrête du 9 mars 1900, Journal Officiel de l'Indochine Française (JOIF), 1900, p.502.
 3. Arrête du 15 avril 1905, JOIF, 1905, p.521.
 4. Arrête du 18 mai 1908, JOIF, 1908, p.977.
 5. Ordonnance royale du 31 mars 1911, Bulletin Administratif du Cambodge (BAC), 1911, p.
 6. Ordonnance royale du 11 octobre 1923, BAC, 1923, p.810.
 7. Arrête du 15 février 1925, JOIF, 1925, p.250.
 8. Decret du 23 décembre 1924, Journal Officiel de la République Française (JORF), 1925 p.250.
 9. Arrête du 30 avril 1925, JOIF, 1925, p.890.
 10. Arrête du 11 juillet 1925, JOIF, 1925, p.1422.
 11. Ordonnance royale du 6 novembre 1935, BAC, 1935, p.1434.

Statutes particularly related to the classification and listing of monuments were enacted on 16 May 1925, 29 April 1930, 1 October 1932, 17 July 1935, and 24 February 1938.¹ The total number of Khmer monuments classified and statutorily protected under the above-mentioned statutes was seven hundred and eighty. Other statutes relate to the creation, definition and regulation of the Angkor (monument) Park;² the sale and exportation of Khmer antiquities and art objects;³ and the protection of natural monuments and sites.⁴

The majority of the above-mentioned Statutes, Decrees and Laws, etc., remained in force until the fall of the Government of the Khmer Republic in 1975 by virtue of the Franco-Khmer Agreement of 15 June 1950.⁵ The Government's obligation to preserve and protect the nation's heritage of cultural property - as defined under the Statute of 15 February 1925 and subsequently amended by the said Statutes of 30 April 1925 and 11 July 1925 - and natural monuments and sites, was declared in Articles 640 and 703 of the Khmer Civil Code.⁶ Powers to enforce the preservation and protection thereof were declared in Articles 216 and 217 of the Khmer Penal Code.⁷ Because of the events of 1975- , proposals to introduce new legislation, tailored to the particular problems of the country, have been abandoned. The present situation remains unknown, and so, in the absence of properly authenticated information, the undernoted analysis of conservation legislation is restricted to the situation prevailing up until 1975 only.

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1. Arrêtes des 16 mai 1925, JOIF, 1925, p.1754; 29 avril 1930, JOIF, p.1685; 1er octobre 1932, JOIF, 1932, p.3297; 17 juillet 1935, JOIF, 1935, p.2645; and 24 février 1938, JOIF, 1938, p.907.
 2. Arrêtes des 30 octobre 1925, JOIF, 1925, p.2347; 16 décembre 1926, JOIF, 1926, p.1561; 21 décembre 1926, JOIF, 1926, p.3490; 30 septembre 1926, JOIF, 1926, p.3779; 21 mai 1930, JOIF, 1930, p.2040; 20 janvier 1931, JOIF, 1931, p.349; 1er décembre 1934, JOIF, 1934, p.4000; 21 septembre 1935, JOIF, 1935, p.3263; 30 décembre 1935, JOIF, 1935, p.87; 10 octobre 1936, JOIF, 1936, p.3029; 10 mars 1937, JOIF, 1937, p.835; and 15 janvier 1940, JOIF, 1940, p.117.
 3. Arrêtes des 14 février 1923, JOIF, 1923, p.303; 2 juin 1926, JOIF, 1926, p.670; 2 juin 1926, JOIF, 1926, p.1527; and 30 juillet 1931, JOIF, 1931, p.2612.
 4. Lois des 20 avril 1910, JOIF, 1910, p.3693; and 2 mai 1930, JOIF, 1930, p.5002. Décrets des 15 novembre 1930, JOIF, 1930, p.1291; and 25 août 1937, JOIF, 1937, p.3119. Arrêtes des 5 janvier 1931, JOIF, 1931, p.94; 30 avril 1931, JOIF, 1931, p.1570; 4 mars 1933, JOIF, 1933, p.740; 20 décembre 1935, JOIF, 1935, p.4284; and 15 octobre 1937, JOIF, 1937, p.3119. Ordonnance royale du 23 novembre 1931, BAC, 1931, p.1683.
 5. L'accord culturel franco-khmer du 15 juin 1950.
 6. Code civil khmer, 19 .
 7. Code pénal khmer, 19 .

Under article 1 of the Law of 31 December 1913 - as extended to Indo-China by the Decree of 23 December 1924, regulated by the Statutes of 15 and 30 April and 11 July 1925, and subsequently amended by the independent governments of the Kingdom of Cambodia (1955-70) and the Khmer Republic (1970-75) - hereinafter referred to as the 'July 1925 Statute', both immovable and movable cultural property of artistic or historic interest may be declared to be an historic monument in the public interest, subject to the following provisions ¹ :

Immovable Cultural Property

Under article 2 of the July 1925 Statute, immovable cultural property of historic or artistic interest may be classified as a historic monument, in whole or in part, in the public interest. Any site, including such surrounding land as is necessary to insulate and protect the said site, which contains prehistoric formations or strata, the remains of ancient buildings, and objects of artistic, archaeological or religious character, may be classified. The owner of the immovable cultural property and the head of the local administration are both notified of the proposed classification.

Under articles 4 and 5 of the July 1925 Statute, the consent of the owner of the immovable cultural property is required before the proposed classification may be confirmed. However, in the absence of such consent, the Council of Ministers may declare the immovable cultural property to be a classified historic monument, in which case compensation may be claimed for any injury or loss arising therefrom.

Under article 9 of the July 1925 Statute, no immovable cultural property so classified may be destroyed, removed, restored, repaired or altered without prior permission.

Under article 12 of the July 1925 Statute, no structure may be erected adjoining a classified immovable cultural property, without prior permission. Nor may the appearance be altered and the posting of advertisements, either on or within the perimeter of a classified immovable cultural property, is prohibited. Ownership may not be transferred without prior permission.

1. Direction des Arts, 'Extrait et Demarquage du Texte Legislatif au Classement, a la Conservation et la Protection des Monuments Historiques', Phnom Penh, Aout 1965.

Movable Cultural Property

Under article 15 of the July 1925 Statute, movable cultural property of prehistoric, historic or artistic interest may be classified as a historic monument, in the public interest.

Under articles 17-20 of the July 1925 Statute, all movable cultural property appertaining to a classified immovable cultural property is also considered to be classified and registered, and may not be removed or transferred or sold without prior permission. The owner of a classified movable cultural property must give fifteen days notice of his intention to remove, transfer or sell the said movable cultural property to the head of the local administration. The acquisition of a classified movable cultural property other than in accordance with article 19 of the said Statute is null and void, and persons who, in good faith, acquire such a classified movable cultural property, either directly or indirectly, have a right to reimbursement in full by the Vendor thereof of the sum paid. Furthermore, the State is empowered to confiscate and resell the said movable cultural property.

Under articles 21-22 of the July 1925 Statute, the exportation of classified movable cultural property from the country is prohibited. Objects of art, statues, sculptures and inscriptions of stone, wood or metal, of Khmer origin, dating from before the nineteenth century, may not be exported unless accompanied by a certificate of non-classification. In the absence thereof, the Customs and Excise may confiscate the said movable cultural property.

Under article 23 of the July 1925 Statute, no classified movable cultural property may be altered, repaired or restored without prior permission, and in accordance with such conditions as may be specified. Classified movable cultural property which has been modified without permission must be restored, whenever possible, to its original condition at the expense of whoever effected or ordered the modification. Accordingly, the State is empowered to inspect classified movable cultural property.

Under article 24 of the July 1925 Statute, the State maintains the right of pre-emptive purchase of any movable cultural property offered for sale within fifteen days of being notified thereof.

Under articles 25-27 of the July 1925 Statute, the various administrative services of the State, local administrations, public institutions and private owners who are the owners, assignees or guardians of classified movable cultural property, are responsible for the care and conservation thereof and must take all measures necessary to this effect. If the said cultural property is imperiled and the administrative service, local administration, public institution or private individual concerned does not immediately take the measures considered necessary to ensure the care and conservation of the said movable cultural property, the State may prescribe and enforce the necessary conservation measures and, if required, remove the said movable cultural property to a State museum or depository. Objects of artistic, prehistoric or archaeological interest, structures, mosaics, bas-reliefs, statues, medals, vases, columns and inscriptions, etc., existing above or below the ground of a classified immovable cultural property, remain the property of the State.

Excavations and Discoveries

Under article 28 of the July 1925 Statute, no person may excavate or search for antiquities without prior written permission. Two months notice must be given to the head of the local administration who, in turn must notify the Minister who may issue a permit. Such a permit may be subject to conditions and, if the Minister considers that the excavation is being undertaken in a manner liable to cause injury to the said antiquities, the permit may be cancelled.

Under article 29 of the July 1925 Statute, any person who, as a result of excavations or other works, discovers any ruins, sculptures, inscriptions or any objects of prehistoric, historic, archaeological or artistic interest at the site of a historic monument, must notify the head of the local administration within twenty-four hours who, in turn, must notify the Minister. Any person failing to declare such a discovery is liable to prosecution and the said ruin, sculpture, etc., is liable to confiscation.

Under article 30 of the July 1925 Statute, the State is empowered to retain any art object or antiquity discovered during excavations or other works on State property. If the said art objects or antiquities are discovered on private property, the State is empowered to retain them for a

Excavations and Discoveries (cont.)

period of six months. The State has the right of pre-emptive purchase.

Penal Provisions

Under article 35 of the July 1925 Statute, conservators, inspectors and guardians attached to a museum or archaeological store, monument or group of monuments are responsible for enforcing the above mentioned provisions.

Other Provisions

Under article 38 of the July 1925 Statute, the State is empowered to enter and inspect any classified historic monument, and to regulate the reproduction thereof by painting, drawing and still or cine-photography, by the levying of a special tax - the receipts from which accrue to the State and which may be used for the development of collections of classified movable cultural property and the conservation of classified immovable cultural property.

Khmer Civil Code

Under article 640 of the Khmer Civil Code, the nation's heritage of natural assets is inalienable and must be conserved.

Under article 703 of the Khmer Civil Code, precious objects, buried or otherwise hidden for a long period, and without an owner, are considered to be national treasures. Any person discovering such a precious object has a right to compensation calculated at fifty per cent. of its market value.

Khmer Penal Code

Under article 216 of the Khmer Penal Code, whosoever fraudulently takes possession, or attempts to take possession, of a revered object belonging to a religious cult recognised by the State, placed in a sanctuary or other religious structure, or buried beneath an altar, is punishable by a corrective penalty of the third degree, and may be condemned to public disgrace and banishment.

Under article 217 of the Khmer Penal Code, whosoever violates or attempts to violate a burial place is punishable by a corrective penalty of the second degree. However, if the said violation or attempted violation was for the purpose of seizing buried objects, the said corrective penalty is increased to the third degree.

2. ADMINISTRATION

Up until 1972, the responsibility for conserving the nation's heritage of movable and immovable cultural property was divided between two Government agencies :

1. National Centre for Cultural Development; and
2. Conservation d'Angkor.

Following the occupation of the Angkor Park by the Khmer Rouge in 1970, the Conservation d'Angkor at Siem Reap was gradually reduced to a skeleton staff and was subsequently closed down in 1972. The National Centre for Cultural Development was closed down three years later, in 1975, as a result of the fall of the Government of the Khmer Republic. The administrative situation since the Communist takeover in 1975 is unknown, however, and the undernoted outline of the administrative framework in Khamponchea is therefore restricted to the situation prevailing up until 1975.

National Centre for Cultural Development, Phnom Penh

Under the jurisdiction of the High Technical Council of the Ministry of Culture, the Council was responsible for coordinating the work of the undernoted five agencies :

1. Division of Cultural Patrimony;
2. Division of Arts and Techniques;
3. Division of Arts and Letters;
4. Division of the University of Fine Arts; and
5. Directorate of Planning and Programming.

Division of Cultural Patrimony

The Division of Cultural Patrimony was specifically charged with the responsibility for the classification, conservation and protection of

the nation's classified historic monuments.¹ The work of the Division was divided between the undernoted five departments :

1. Department of Monuments and Sites;
2. Department of Excavations and Antiquities;
3. Department of Museums;
4. Department of Archives; and
5. Department of Khmer-Mon Institute.

Because of the almost continuous state of war prevailing in the country between 1970 and 1975, staff shortages and inadequate financing, the Departments of Monuments and Sites, and Excavations and Antiquities had, at the time of the fall of the Government of the Khmer Republic in 1975, been reduced to a state of total ineffectiveness. With the countryside almost entirely in the hands of the Khmer Rouge, the Government was no longer able to protect the field monuments and sites in its care, and the Department of Museums was increasingly called upon to salvage and transfer to the safety of the National Museum at Phnom Penh, as much movable cultural property as possible.

National Museum, Phnom Penh

Founded in 1905 by the French Colonial Government, and under the jurisdiction of the Archaeological Service of the Ecole Francaise d'Extreme-Orient (EFO) from 1905 until 1957 when authority was formally transferred to the newly independent Government of Cambodia, the National Museum, formerly known as the Musee Khmer and the Musee Albert Sarraut, included in its very large and important collection of antiquities representing all periods of Khmer art, from the fifth to the thirteenth century, sculptures of stone and bronze, architectural reliefs, ceramics, terra-cottas, etc.² To this collection was added the contents of the archaeological depository of the Conservation d'Angkor at Siem Reap between 1970 and 1972.

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1. Since the publication of the first national inventory in c.1930, new discoveries, especially in the Province of Battambang, had made the document obsolete. The said discoveries were not classified and remained unprotected.
 2. Morley, Dr. Grace. 'Museums in South, Southeast and East Asia : Survey and Report', ICOM Regional Agency in Asia, New Delhi, July 1971, pp.78-79.

In 1970 the Museum was reorganised to include the former Royal Palace complex and the Silver Pagoda at Phnom Penh.¹ The work of the Museum was divided between four departments :

1. Department of Archaeology;
2. Department of History;
3. Department of Arts and Popular Tradition; and
4. Department of Contemporary Arts.

The conservation laboratory of the Department of Archaeology was equipped to restore objects of bronze and other metals, stone and ceramics. The provision of photographic processing facilities etc. was frustrated by the fall of the Government of the Khmer Republic in 1975. So too was the creation of the Applied Research Centre for Archaeology and Fine Arts (ARCAFA) proposed by the member nations of the South East Asian Ministers of Education Organisation (SEAMEO) meeting at Phnom Penh in 1972.²

Conservation d'Angkor, Siem Reap

The Conservation d'Angkor was created in 1960 as an autonomous body under the direction of an independent Governing Board as a result of a number of agreements signed four years earlier, in 1956, between the Government of France and the former Government of Cambodia.³ Both governments agreed to cooperate in the field of archaeological excavation and conservation at Angkor Park. The French Government, through the Ecole Francaise d'Extreme-Orient (EFEO), agreed to provide fifty per cent of the cost of establishment and running of the organisation, and to provide scientific and technical staff, and specialist equipment. Based at Siem Reap, approximately eight kilometres distant from Angkor Park, the offices of the organisation included a drafting room, photographic laboratory, library, epigraphic room and laboratory facilities for the conservation of stone, bronze and ceramics. The closure of the Conservation d'Angkor offices in 1972 denied the Government of the Khmer Republic specialist expertise and advice thereafter.

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1. Included in the collection of the Royal Palace was the cast-iron 'Pavilion de Fer' and furnishings presented by Napoleon III to King Norodom at the inauguration of the Suez Canal in 1869.
 2. SEAMEO, 'Proceedings of the Preparatory Conference on the Restoration and Animation of Historical Sites for the Purposes of Establishing the ARCAFA', Phnom Penh, 4-8 December 1972.
 3. Accords bilatéraux des 23 octobre 1956.

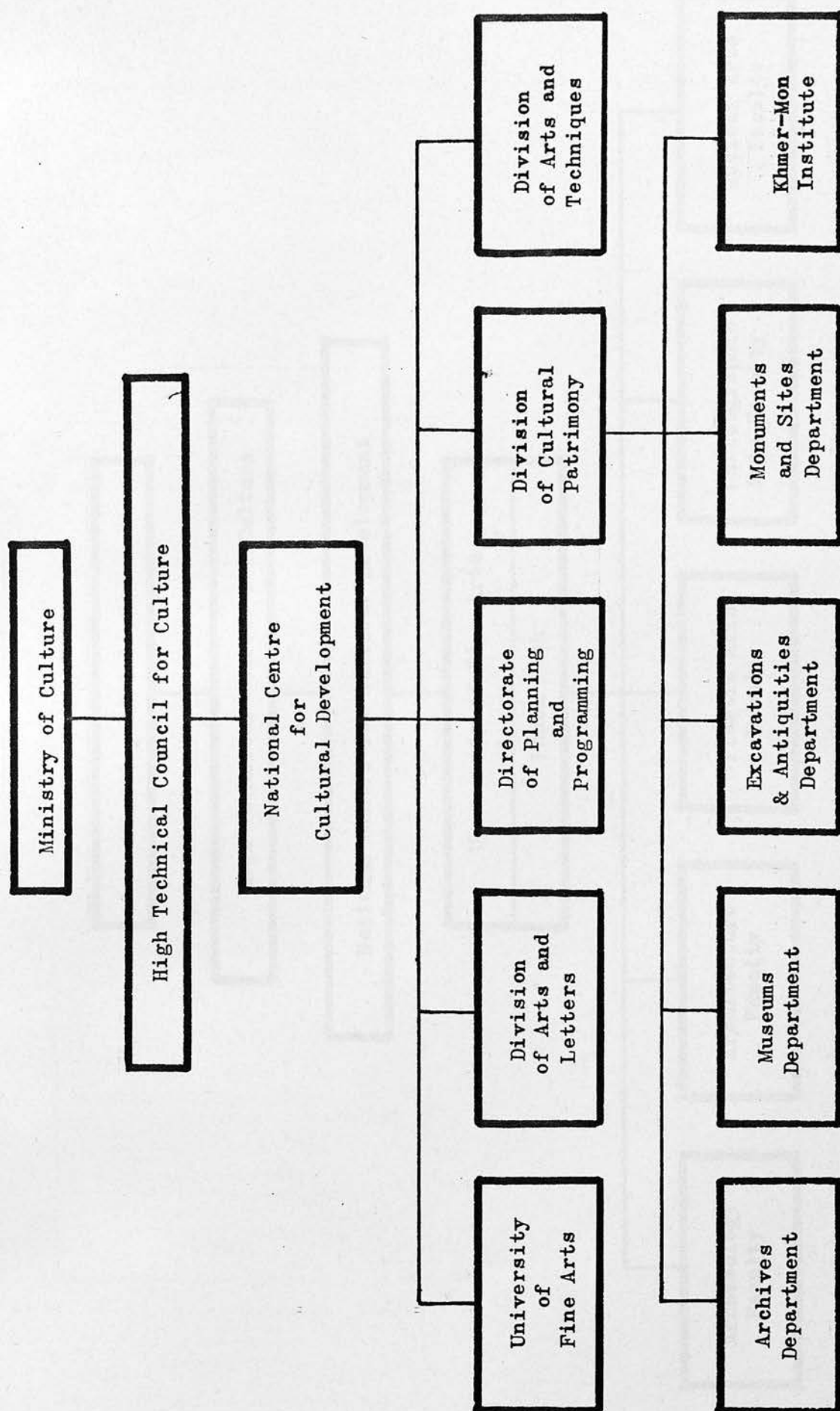


Fig.112 Khampouchea - National Conservation and Related Agencies (1974).

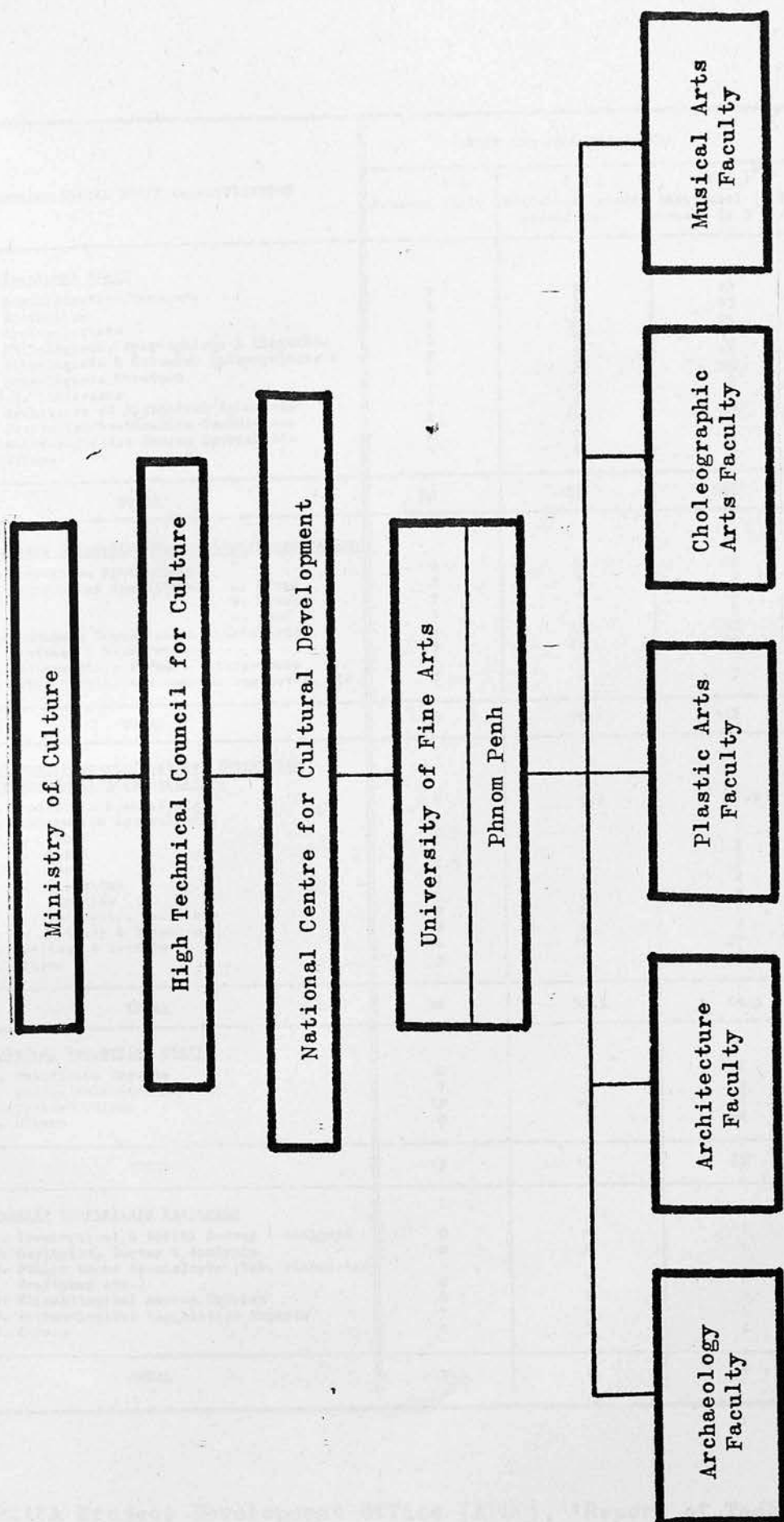


Fig.113 Khampouchea - University of Fine Arts, Phnom Penh.

FIG.114 KHAMPOUCHEA - NATIONAL CONSERVATION STAFF RESOURCES (1973)¹

ARCHAEOLOGICAL STAFF CLASSIFICATION	STAFF AND EMPLOYMENT DATA		
	(1) Present Staff	(2) Additional Staff needed now	(3)* Additional Staff needed in 3 yrs.
<u>Professional Staff</u>			
1. Administrators/Managers	7	9	14
2. Historians	4	7	13
3. Archaeologists	9	13	23
4. Philologists, Epigraphists & Linguists	3	6	11
5. Ethnologists & Cultural Anthropologists	2	8	11
6. Museologists/Curators	0	8	20
7.8.9. Librarians	1	6	8
10. Architects of Historical Monuments	1	8	14
11. Excavation/Restoration Technicians	4	14	27
12. Monument/Object Dating Specialists	0	4	5
13. Others	1	0	0
TOTAL	32	83	146
<u>Monument Excavation/Restoration/Conservation</u>			
1. Excavation Specialists	0	7	19
2. Restoration Specialists: a. Stone	2	4	7
b. Masonry	1	4	6
c. Wood	1	2	4
3. Monuments Conservation Specialists	23	33	42
4. Draftmen & Topographers	19	21	30
5. Photographers & Photo-Interpreters	4	5	7
6. Other Specialists such as engineers, etc	0	2	3
TOTAL	50	78	118
<u>Cultural Property/Skeletal Excavation and Restoration/Conservation</u>			
1. Excavation Specialists	4	9.5	21.5
2. Restoration Specialists:			
a. Stone	2.5	5	7
b. Metal	1	3	5
c. Wood	1.5	1	5
d. Skeletons	0	1	2
e. Textiles	0	2	3
f. Documents, Paintings	0	6	7
g. Pottery & Ceramics	2	6	7
3. Draftmen & Artists	16	19	27
4. Others	3	0	0
TOTAL	30	52.5	84.5
<u>Internal Supporting Staff</u>			
1. Exhibition Experts	0	3	6
2. Public Relations Experts	1	3	3
3. Trained Guides	12	10	58
4. Others	0	1	2
TOTAL	13	17	69
<u>Outside Specialists Resources</u>			
1. Geographical & Aerial Survey & Analysis	0	0	1
2. Geological Survey & Analysis	0	0	1
3. Public Works Specialists (lab. technician draftsmen etc.)	0	4	6
4. Climatological Survey Experts	0	0	0
5. Archaeological Legislation Experts	1	1	1
6. Others	0	1	2
TOTAL	1	6	11

1. ARCAFA Project Development Office (APDO), 'Report of Task Force on Manpower in Archaeology in the SEAMEO Region', SEAMEO, Phnom Penh, October 1973 (Table 2).

Conservation-Related Government Agencies

The principal conservation-related government agency cooperating with the Division of Cultural Patrimony up until the fall of the Government of the Khmer Republic in 1975, was the Research and Documentation Centre of the University of Fine Arts at Phnom Penh.

Research and Documentation Centre, University of Fine Arts, Phnom Penh

The University of Fine Arts was founded in 1965 as an autonomous organisation administered by a Board of Governors headed by a Rector. The work of the Centre, which was attached to the Faculty of Archaeology, included research into the ethnography of the archaic population of western Cambodia, prehistoric and historic potteries, iron smelting processes at Psa-Dek and Phnom-Dek, etc. The Centre also compiled a register of photographs illustrating traditional crafts, etc.

3. FINANCE

Government Finance

The extent of central government support for the conservation of the nation's heritage of movable and immovable cultural property up until the fall of the Government of the Khmer Republic in 1975 is unknown. However, reports describing the pre-1975 situation all refer to the acute shortage of finance for the payment of staff salaries and purchase of specialist equipment such as projectors, photogrammetrical survey cameras and plotters, micro-filming and copy cameras, etc.¹

Bilateral Aid

From 1960 and 1972 the Government of France provided extensive financial support to the Government of the Khmer Republic, providing scholarships, books and technical equipment through the Ecole Francaise d'Extreme-Orient (EFEO), and co-sponsoring the Conservation d'Angkor at Siem Reap.

Private Foundations

Scholarships to enable Cambodian students to train abroad were provided by the Ford Foundation prior to the fall of the Government of the Khmer Republic in 1975.

4. EDUCATION AND TRAINING

Up until the fall of the Government of the Khmer Republic in 1975, degree-level training courses in the fields of archaeology, architecture, and Khmer history were offered by the undernoted institutions :

1. University of Fine Arts, Phnom Penh - the five faculties of the University (Archaeology, Architecture, Plastic Arts, Music and Choreographic Arts) collectively offered courses in traditional Khmer arts and crafts, drawing and painting, shadow plays and Ramayana drama. Courses were also offered in architecture, archaeology and the history of monuments. In general, courses extended for five years, at the end of which successful students were awarded their 'licence', equivalent to a Bachelor of Arts (B.A.) degree. Because of the acute shortage of staff at a senior level, the Doctor of Philosophy course was suspended.
2. University of Phnom Penh, Phnom Penh - the Faculty of Letters offered a course in the history of the Khmer civilisation in collaboration with the National Museum, Phnom Penh.

Apart from the specialist training available for a limited number of technicians at the Conservation d'Angkor until 1972, facilities for the training of professional and technical grades of staff were not available in the Khmer Republic. In-service training was restricted to two short-courses offered by the National Museum at Phnom Penh :

1. Museum Guard's Course - Forty hour training course, taught in Khmer; and
2. Museum Guide's Course - Eighty hour training course, taught in Khmer, French and English.

Specialist training in the fields of museology, photography, epigraphy, librarianship, prehistory and architectural restoration were not locally available.

Training Abroad

Scholarships were provided by the Government of France and the Ford Foundation to enable students to train abroad in France and Thailand. The former Government of Cambodia and its successor the Government of the Khmer Republic were members of the International Centre for Conservation, the 'Rome Centre', from 1961 until 1975.

1. MONSOON ASIAN SETTING

1. KEY FACTS

Area	:	236,804 sq. km.
Capital City	:	Vientiane (pop. 172,000).
Land Use	:	8% cultivated, 60% forest.
Population	:	3.58 million (42% below 15).
Growth Rate	:	2.3% per annum.
Density	:	15 per sq. km.
Life Expectancy	:	39 males, 42 females.
Per Capita GNP	:	US\$80 dlr. (1974).
System of Government	:	Democratic People's Republic.

2. PHYSICAL SETTING

Situation

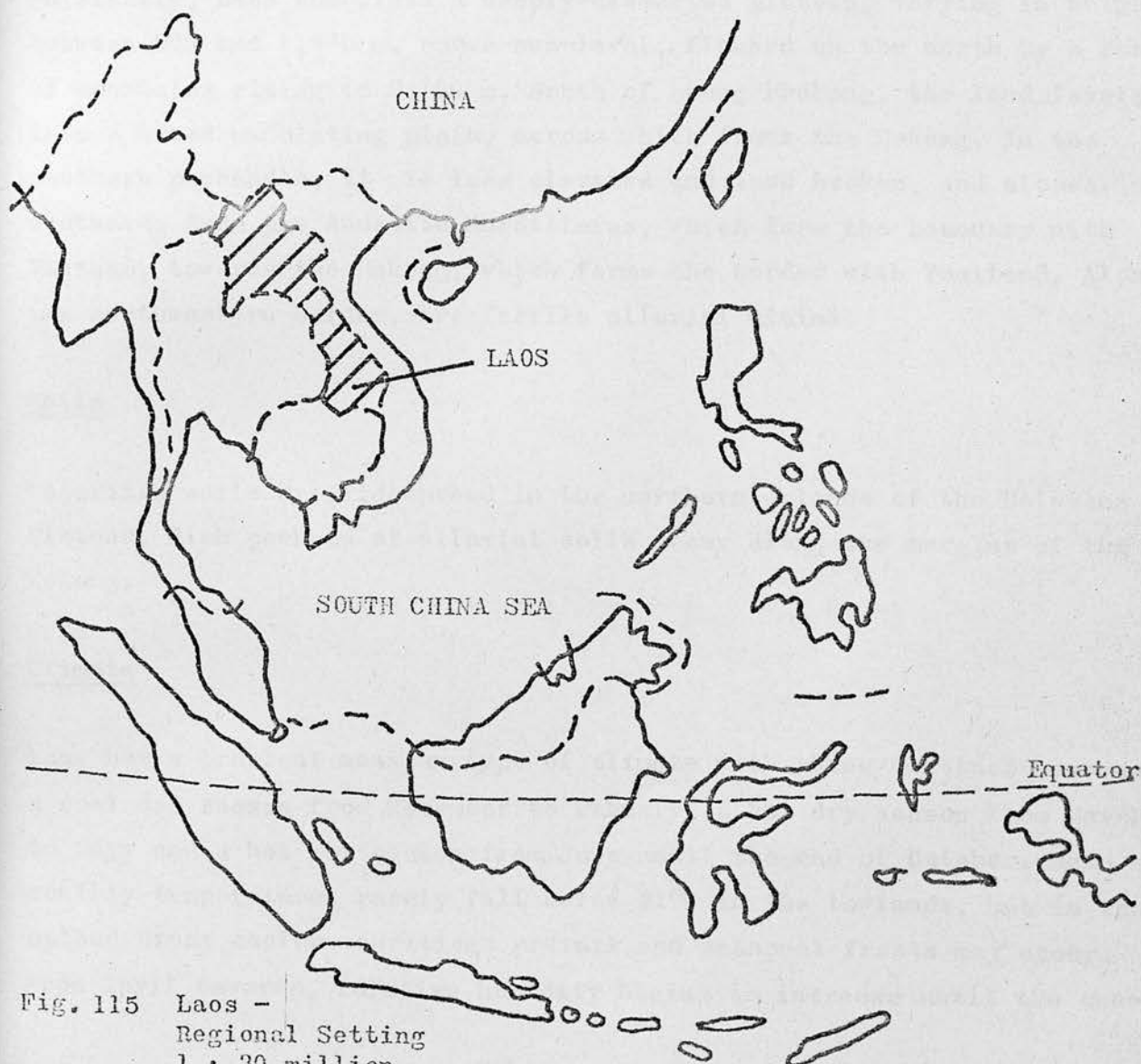


Fig. 115 Laos -
Regional Setting
1 : 30 million.

Situation (cont.)

The People's Democratic Republic of Laos is the only land-locked country in Southeast Asia. Situated between latitudes 13 55 N and 22 30 N, Laos is bounded by five countries : China (north), Vietnam (east), Khambouchea (south), Thailand (southwest) and Burma (west). The capital city, Vientiane (pop. 172,000), is situated at latitude 18 7 N. The total land area of the country is 236,804 sq. km.

Geology, Relief and Drainage

Northern upland areas of Laos are composed of slates, schists and sandstones. Annam Cordilleras are crystalline in origin. Granites are common in the north, but in the south sandstones predominate. Mekong valley lowlands comprise sands, clays and ancient lateritic alluvial deposits. Bolovens Plateau is composed of sandstone overlaid with basaltic and lateritic deposits.

Physically, Laos comprises a deeply-dissected plateau, varying in height between 900 and 1,800 m. above sea-level, flanked on the north by a range of mountains rising to 2,100 m. South of Luang Prabang, the land levels into a broad undulating plain, across which flows the Mekong. In the southern panhandle, it is less elevated and less broken, and slopes westwards from the Annamite Cordilleras, which form the boundary with Vietnam, towards the Mekong, which forms the border with Thailand. Along the southwestern border, are fertile alluvial plains.

Soils

Lateritic soils are widespread in the northern uplands of the Bolovens Plateau. Rich pockets of alluvial soils occur along the margins of the Mekong.

Climate

Laos has a tropical monsoon type of climate with three distinct seasons : a cool dry season from November to February; a hot dry season from March to May; and a hot wet season from June until the end of October. Mean monthly temperatures rarely fall below 21°C in the lowlands, but in the upland areas cooler conditions prevail and seasonal frosts may occur. From April onwards, relative humidity begins to increase until the onset

of the Southwest Monsoon (June-October). Mean annual precipitation varies considerably according to elevation and exposure to prevailing winds: for example, in northern Laos there is as much as 2,032 mm., while in southern Laos highland areas may receive as much as 3,048 mm. The valley of the Mekong is appreciably drier, receiving between 1,270 and 1,778 mm.

Earthquake and Volcanic Activity

Laos is situated in a low frequency earthquake and volcanic activity zone.

Vegetation

More than half of the total land area of Laos is given over to dense sub-tropical forest (60 per cent.). High altitude montanic woodland predominates in the north while deciduous broad-leaved forest predominates in the southern lowlands. In drier areas this gives way to Savannah. There are an estimated 6,000 ha. of Teak (*Tectona grandis*) in Sayaboury province adjacent to the border with Thailand. Oak, laurel and miscellaneous species of conifer are widespread in upland areas.

3. CULTURAL SETTING

Population

The 3.58 million inhabitants of Laos belong to three ethnic groups : the Thai, which includes the Laos and kindred peoples such as the Dam, Deng, Neua and Lao-Lu; the Indonesian (Lao-Theung); and Chinese peoples of the north, which include the Ho, Yao and Meo. The distribution of the population is uneven, upland areas being comparatively sparsely populated. The majority of the population is concentrated along the margin of the Mekong. The average population density is less than 15 per sq. km.

FIG. 116 LAOS - ESTIMATES OF URBAN AND RURAL POPULATION (1950-80)

	1950	1960	1970	1975	1980	
Urban	118	240	448	613	835	('000)
Rural	1,749	2,090	2,535	2,794	3,066	('000)

Language

The official language of Laos is Lao, but French is widely spoken in government and commerce. English is becoming more widely spoken. Pali, or Nang Xu Tham, a Sanskrit language of Hindu origin, is generally used by priests. The level of literacy is relatively low at 20 per cent.

Religion

The Lao-Lu, or Valley-Lao, who constitute approximately 40 per cent. of the population, practice the Hinayana (Theravada) form of Buddhism. The Lao-Thai, or tribal Thai, who live mainly in northern Laos and constitute approximately 16 per cent. of the population, are mostly patrilineal, believing in ancestral deities. The majority of the Lao-Theung, a diverse group comprising many tribes, practice animism.

4. ECONOMIC SETTING

Cultural Tourism

Cultural tourism in Laos is negligible.

FIG.120 LAOS - TOURISM AND TOURIST RECEIPTS (1968-70).

	1968	1969	1970	
Tourists	51	43.6	7.3	('000)
Receipts	NA	NA	NA	(US million dlrs.)

5. POLITICAL SETTING

Constitution and Government

The People's Democratic Republic of Laos was founded on 2 December 1975. For administrative purposes the country is divided into sixteen provinces.

International Relations

The former Royal Lao Government was a member of the United Nations (U.N.) and its sister agencies : ILO, FAO, UNESCO, WHO, ICAO, UPU, WMO, ITU, and Bank and Fund. The present situation is unknown.

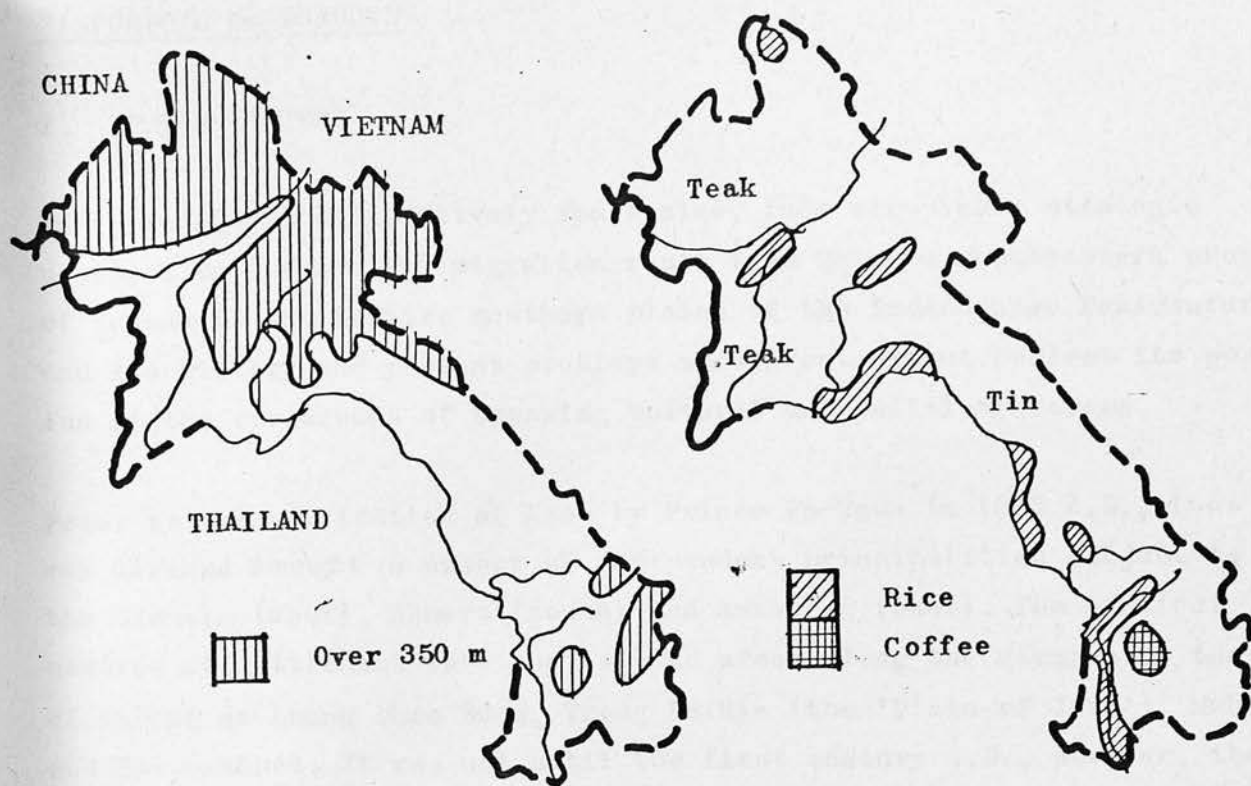


Fig.117 Laos - Build

Fig.118 Laos - Land Use



Fig.119 Laos - Towns

1. EARLY HISTORY

In spite of its comparatively small size, Laos occupies a strategic position on the ancient migration route from China's southwestern province of Yunnan to the fertile southern plains of the Indochinese Peninsular, and its history and present problems to a great extent reflect its position at the crossroads of opposing cultural and political forces.

Prior to the unification of Laos by Prince Fa-Ngum in 1353 A.D., Laos was divided amongst a number of independent principalities subject to the Siamese (west), Khmers (south) and Annamese (east). The earliest centres of settlement were the lowland areas along the margins of the of Mekong at Luang Phra Bang, Thong Haihin (the 'Plain of Jars'), Mahaxay, and Savannakhet. It was not until the first century A.D., however, that the foundations of large urban concentrations of people were laid at Srigotapura, twenty-five kilometres east of the Mekong on the Se-Bang-fai in Kham Muan Province. According to legend, the ancient city of Sripotapura was the capital city of the Srigotabong Empire from the first to the end of the sixth century A.D. Further south, at Thakhet, on the left bank of the Mekong, is the ancient city of Thakhet. Archaeological evidence suggests that the Srigotabong Empire was strongly influenced by the Later Andhra (c.50-320 A.D.) and Gupta (320-600 A.D.) dynasties of India. In the Bassac region of Southeast Thailand, the principality of Chen-la, led by Bhavavarman, became sufficiently powerful to topple the ailing Fun-nan Empire (1st century to 627 A.D.). The Kingdom of Chen-la (627-782 A.D.) endured for less than two centuries, falling in turn to the founder of the Khmer Dynasty, Jayavarman II (802-805 A.D.), and thereafter Laos became a vassal state of Cambodia. The period of Khmer domination, known as the Xay-Fong Period lasted until the mid-fourteenth century. However, as the authority of the Khmers declined, so that of the Siamese and the Annamese increased to fill the power vacuum until the intervention of Fa-Ngum. Fa-Ngum united the vassal principalities to form the Kingdom of Lan-Xang (the 'Land of a Million Elephants'), which stretched from Yunnan in the north, to the Lphi Waterfall in the south, and from the Phraya Fai (Phraya Yen) Mountains in the west to the Lao Vientiane Mountains in the east. The capital of the Kingdom was at Xieng Thong (Luang Phra Bang). Later, when Lan-Xang adopted the Hinayana form of Buddhism, the name of the Kingdom was changed to Satnaganahut. In 1478 and again in 1750, the Annamese occupied Luang Phra Bang, and in 1789 the

Early History (cont.)

Kingdom was divided into three separate states administered from Luang Phra Bang (under the jurisdiction of the Annamese), Vientiane (under the jurisdiction of the Siamese), and Champassak (under the jurisdiction of the Laos).

2. COLONIAL HISTORY

Siamese suzerainty in Laos was ended in 1893, when Laos became a French protectorate and merged with Cambodia and Vietnam to form the Indo-Chinese Union. However, in contrast to the neighbouring protectorates of Cambodia and Vietnam, Laos possesses few resources in commercial quantities and, in consequence, it became a backwater of the French Empire, ruled with benign indifference from Hanoi.

3. MODERN HISTORY

French authority was briefly interrupted in 1945 by the Japanese occupation of Laos. Following the defeat and withdrawal of the Japanese, an independence movement, known as Lao Issara, established an independent government under Prince Phetsarath, the Viceroy of Luang Phra Bang. However, the government collapsed after the return of the French in 1946, and the leaders of the movement were forced to flee to Thailand (formerly known as Siam). Under the 1947 Constitution, Laos became a constitutional monarchy under the Luang Phra Bang Dynasty, and in 1949 became an independent sovereign state within the French Union. Many of the Lao Issara leaders then returned to Laos, but some, including Prince Souphanouvong, who allied himself with the Vietminh and subsequently founded the Pathet Lao rebel movement, remained underground. Four years later, in 1953, Laos became fully independent under the leadership of Prince Souvanna Phouma. From 1953 until 1973, an almost continuous state of civil war prevailed in Laos between the Royal Lao Government and the pro-Communist Pathet Lao. In 1957, and again in 1962, Prince Souvanna Phouma attempted to establish a coalition government, but both initiatives failed within a matter of months. Peace talks were resumed in 1972 and on 21 February 1973 both sides signed the Agreement on Restoring Peace and National Concord. The Protocol implementing the February Agreement was signed at Vientiane on 14 September 1973. This paved the way for the country's third coalition government, established on 5 April 1974, but in the wake of the Communist victories in Vietnam and the Khmer Republic the Pathet Lao steadily assumed complete control. On 2 December 1975, the People's Democratic Republic was declared.

3. CULTURAL HERITAGE

Laos is a mountainous, land-locked country located on the ancient overland route from China to India and peninsular Southeast Asia, and at various times in its history the country has been subjected to cultural influences of varying intensity and permanence from Burma, Kham-pouchea (Cambodia), Thailand (Siam), Vietnam (Tonkin and Annam), China and India. The Laotian cultural heritage of monuments and sites is accordingly rich and varied.

1. ARCHAEOLOGICAL

The prehistory of Laos has been relatively neglected, but such material that does exist - neolithic and megalithic remains - suggests that the country experienced both Palaeo-Melanesian and Indonesian cultural influences. Unfortunately, no research or excavation of any importance has been undertaken since 1945.

Neolithic Sites

In the neighbourhood of Luang Phra Bang, crude stone tools of the Hoa-Binhian type, evidence of settlement by Stone Age man, have been found. Further south, in Khammouane Province, skeletal remains accompanied by axes comparable with Bac-sonian finds have been found at the Mahaxay Caves. Other material discovered at the site suggests a relationship with the coastal kitchen-midden sites of Annam.

Megalithic Sites

The most characteristic feature of the megalithic culture of Laos is the use of large stone burial jars, carved from soft sandstone and measuring up to three metres in height, which suggests a link with southern Burma and the Celebes (Sulawesi). A great number of these jars have been discovered on the Tran-ninh Plateau, particularly at Thong Haihin (Plain of Jars), and iron and bronze artifacts associated with the finds suggest that metal working was well established in the area.¹ Other finds include glass beads and ceramics - some of Chinese origin.

1. According to the legend of Thao-Cheuang, the jars were made to contain liquor served to the victorious troops of Thao-Cheuang following the defeat of another Lao army at Thong Haihin.

Later, earthenware jars and rock-cut tombs gradually replaced stone jars for funerary purposes. Sites in the Savannakhet and Kong-Kok regions of southern Laos still remain to be surveyed and scientifically excavated.

2. ARCHITECTURAL

The earliest surviving Laotian monuments and sites reflect the influence of late Andhra (50-320 A.D.) and Gupta (320-600 A.D.) India, Chen-La (627-782 A.D.) and Champa (192-1471 A.D.). From the sixth century onwards, however, Laos came under increasing Khmer influence until the defeat of the Khmers by the Thais in southern Siam in c.1350 and the unification of Laos by Fa-Ngum in 1353 A.D. Thereafter, the artists and craftsmen drew their inspiration from the Thais, and the artistic and architectural heritage of Laos is considered to be a provincial version of that of Ayuthia (c.1350-1767).

Three distinct periods in the development of the art and architecture of Laos are generally recognised :

1. Srigotapura Period : c.1st-7th century A.D.;
2. Xay-Fong Period : c.8-13th century A.D.; and
3. Lan-Xang Period : c.14-19th century A.D.

Few monuments and sites have survived from the Srigotapura period or the Xay-Fong period.

Building Types

a) Ruined Cities :

Of the few monuments that have survived from the Srigotapura period, the ruined city of Srigotapura is the most important. Situated on the Se-Bang-Fai, a tributary of the Mekong, in Khammouane province in Central Laos, the site is covered with a dense mantle of vegetation and remains unexcavated. Other ruined cities include Xay-Fong near Vientiane, Vieng Kham in the Nam Lik-Nam Ngum Valley, and Champassak in southern Laos.

b) Cave Temples :

A series of cave temples dating from the Xay-Fong period have been discovered at Tham Vang Sang and Dan Soung near Vientiane. At the former site, there are two caves containing carved sandstone Buddhas in the Gupta style (320-600 A.D.) dating from 1066 A.D. At the latter, there are an unspecified number of caves containing similar images which reflect the influence of the Khmers. Similar cave temples of the Lan-Xang period are found in numbers at Tham Ting and Tham Xieng Nga.

c) Stupas :

The earliest surviving stupas date from the sixth century A.D. and reflect the influence of Gupta (320-600 A.D.) India. Two have survived from the Srigotapora period, the That Ing-Hang stupa near Savannakhet, and the That Srigotabong stupa at Thakhet. Both stupas are of the hemispherical type, known locally as 'Mhak-mo' (watermelon). The finest and most important stupa in Laos is the That Luang stupa at Vientiane, founded by Prince Burichandra in the sixth century A.D. and enlarged by King Sayasethathirat I in 1566 A.D. It was destroyed by the Ho - a Chinese tribe from Yunnan - in 1873 A.D. and rebuilt in its present form in 1911 A.D. Square on plan with convex sides, the stupa is crowned by a striking square section, plantain bud-shaped finial surmounted by a tapering finial. Around the base of the dome of the stupa stand thirty-two small, square section pinnacles. The whole ensemble stands upon a square platform banded with lotus leaves, set within a rectangular quadrangle enclosed within a tile-roofed cloister.

d) Temples :

Temples are the largest single building type in Laos. The earliest and most important temple to survive from the Xay-Fong period is the Wat Phu at Champasak, a temple mountain of the Khmer type originally dedicated to Shiva in the c.sixth century. Additions were made to the temple in the eleventh and twelfth centuries. As the result of major collapses a comprehensive rebuilding operation was begun, but before it could be completed, Khmer authority declined and the temple passed into the hands of the Laotians, who subsequently turned it into a Buddhist shrine and added a monastery. The monument is built of sandstone and is unique

inasmuch as no other temple of the Xay-Fong period has survived intact. Traces of a Hindu temple complex have been discovered at Ban Saphay near Pakse. The characteristic Buddhist temple building type of the Lan-Xang period is closely modelled upon the Siamese temple building type of the Ayuthia period, and features a masonry image hall built of baked brick laid in lime mortar and finished with lime stucco, topped with a high gabled, tiled stepped-roof supported with timber pillars. Gables, ridges, brackets, doors and columns are generally carved. Walls are often decorated with wall-paintings. Buddhist temples are usually set within compounds enclosed by cloisters. The Vat Phrapphra Kheo temple at Vientiane (now a museum) is the most developed example of the type.



Fig.121 Laos - Principal Historic Sites (1 : 6 million).

I. Prehistoric Sites

1. Luang Phra Bang.
2. Mahaxay Caves.
3. Plain of Jars (Thong Haihin).
4. Savannakhet.

II. Historical Sites, Monuments and Inscriptions

1. Srigotapura Period (C.1-7th century A.D.)

- a) Ruined city of Srigotapura, Kham Muan Prov.
- b) That Ing-Hang stupa.
- c) That Srigotabong stupa.

2. Xay-Fong Period (C.8-13th century A.D.)

- a) Wat Champasak, Champasak Prov.
- b) Ruined city of Xay-Fong.
- c) Stone inscription of Xay-Fong.
- d) Statue of Jayavarman VII.
- e) Cave temples of Tham Vang Sang.
- f) Cave temples of Dan Soung.
- g) Heuan Hin (Stone House), Savannakhet.
- h) Hindu/Buddhist temple complex, Ban Saphay.

3. Lan-Xang Period (C.14-19th century A.D.)

1. Luang Phra Bang

- a) Wat Manorum (1372).
- b) Wat Vixun (1503).
- c) Wat Na.
- d) Wat Xieng Thong (1560).
- e) Wat Savankhalok (1527).
- f) Wat That (1548).
- g) Wat Hua Xieng (1705).
- h) Wat Mai Suvarnaphum (1796).
- i) Wat Pa Huok (1841).
- j) Wat Pake (1841).
- k) Wat Pa Fang (1700).
- l) Wat Pai Fai (1765).
- m) Phousi Hill Stupa (1914).
- n) Wat Chum Khong (1855).
- o) Wat Xieng Moun (1851).
- p) Wat Nong (1886).
- q) Wat Nong/Wat Xieng Thong temple complex :
 - i) Wat Sen,
 - ii) Wat That Noy,
 - iii) Wat Si Mungkhun,
 - iv) Wat Sop,
 - v) Wat Nak, and
 - vi) Wat Si Bun Heuang.

II. Historical Sites, Monuments and Inscriptions (cont.)

- r) Other sites :
 - i) Wat Phang Luong.
 - ii) Wa Pa Kha.
 - iii) Wat Phang Ai.
 - iv) Wat Phun Sang.
 - v) Wat Luk May.
 - vi) Wat Khi Li.
 - vii) Wat Pak Khan.
 - viii) Wat Aham.
 - ix) Wat Vixun.
 - x) Wat Na.
 - xi) Wat That Luang.

- s) Tham Ting Caves.

2. Xieng Khuang Province

- a) Muong Khun :
 - i) Wat Bunko.
 - ii) Wat Si Hom.
 - iii) Wat Kang.
 - iv) Wat Phya.
 - v) Wat That Phun.
 - vi) Wat Chom Phet.
 - vii) Wat Phou Kan.
 - viii) Wat Na U.
 - ix) Wat Ban Kua.
 - x) Wat Nape.
 - xi) Wat Han Hoy.
 - xii) Wat Chana.
 - xiii) Wat Xieng Di.
 - xiv) Wat Ban Su.
 - xv) That Phong Pheng.

- b) Muong Khang :
 - i) Wat Na Hua.
 - ii) Wat Ban Man.
 - iii) Wat Ban Puya.
 - iv) Wat Ban Khay.
 - v) Wat Si Khun.
 - vi) Wat Ban Khuong.
 - vii) Wat Ban My.
 - viii) Wat Ban Mon.
 - ix) Wat Luang.
 - x) Wat Phu Kham.
 - xi) Wat Pom Muong.
 - xii) Wat Na Khom.

- c) Muong Sui :
 - i) Wat Na Hoy.
 - ii) Wat Ban Ang.
 - iii) Wat Ban Xang.
 - iv) Wat Ban La Noi.
 - v) Wat Ban Kai Kham.
 - vi) Wat Ban Nguon.
 - vii) Wat Ban Moy.
 - viii) Wat Ban Tan.

II. Historical Sites, Monuments and Inscriptions (cont.)

- ix) Wat Na Ha.
- x) Wat Thong Hac.
- xi) Thats or stupas.
- xii) Wat Ban Beng.
- xiii) Wat Ban Bua.
- xiv) Wat Ban Khay.
- xv) Wat Xieng Hung.
- xvi) Wat Vixay.
- xvii) Wat Ban Muong.
- xviii) Wat Ban Thong.
- xix) Wat Ban Mang.
- xx) Tham Nong Tong.
- xxi) Tham Xieng Nga (Cave of Buddha Images).
- xxii) Wat Xieng Nga.
- xxiii) Wat Ban Saut.

3. Vieng Chan (Vientiane)

- a) Wat Ho Phrakeo (Religious Museum).
- b) Wat Sisaket.
- c) That Luang stupa (f.6th century A.D. Enlarged 1566).
- d) Wat Chan (f.1560. Reconstructed 1911).
- e) Wat Phya Wat.
- f) Wat Inpeng.
- g) Wat Ongtue.
- h) Wat Haysok.
- i) Wat Phone Xay.
- j) Wat Nong Bon.
- k) Wat Sri Muong.

4. Nam Lik/Nam Ngum Valley

- a) Vieng Kham, Ban Keun District.
- b) Ruined city of Vieng Kham.
- c) Wat Suan Tan.

5. Thakhek Province (Khammouane)

- a) Muang Keo (Old Thakhek) (14-19th century).
- b) Muong Sam (Muang Kham Se), Ban Makmao.

6. Savannakhet Province

- a) That Phone stupa.
- b) Wat Thaxano.

7. Champassak Province

- a) Ruined city of Champassak (three sites at Muong Keo, Ban-Hinlad and Champassak).
- b) Wat Simunmong (1738).
- c) Wat Ban Bang Say (great bronze Buddha, 1707).
- d) Wat Ban Phra-Phin (undated seated Buddha in European style).

8. Sithadone Province

- a) Wat Khorntai (1710).
- b) Phra Khrou Yot Keo Phone Smek stupa (1709).

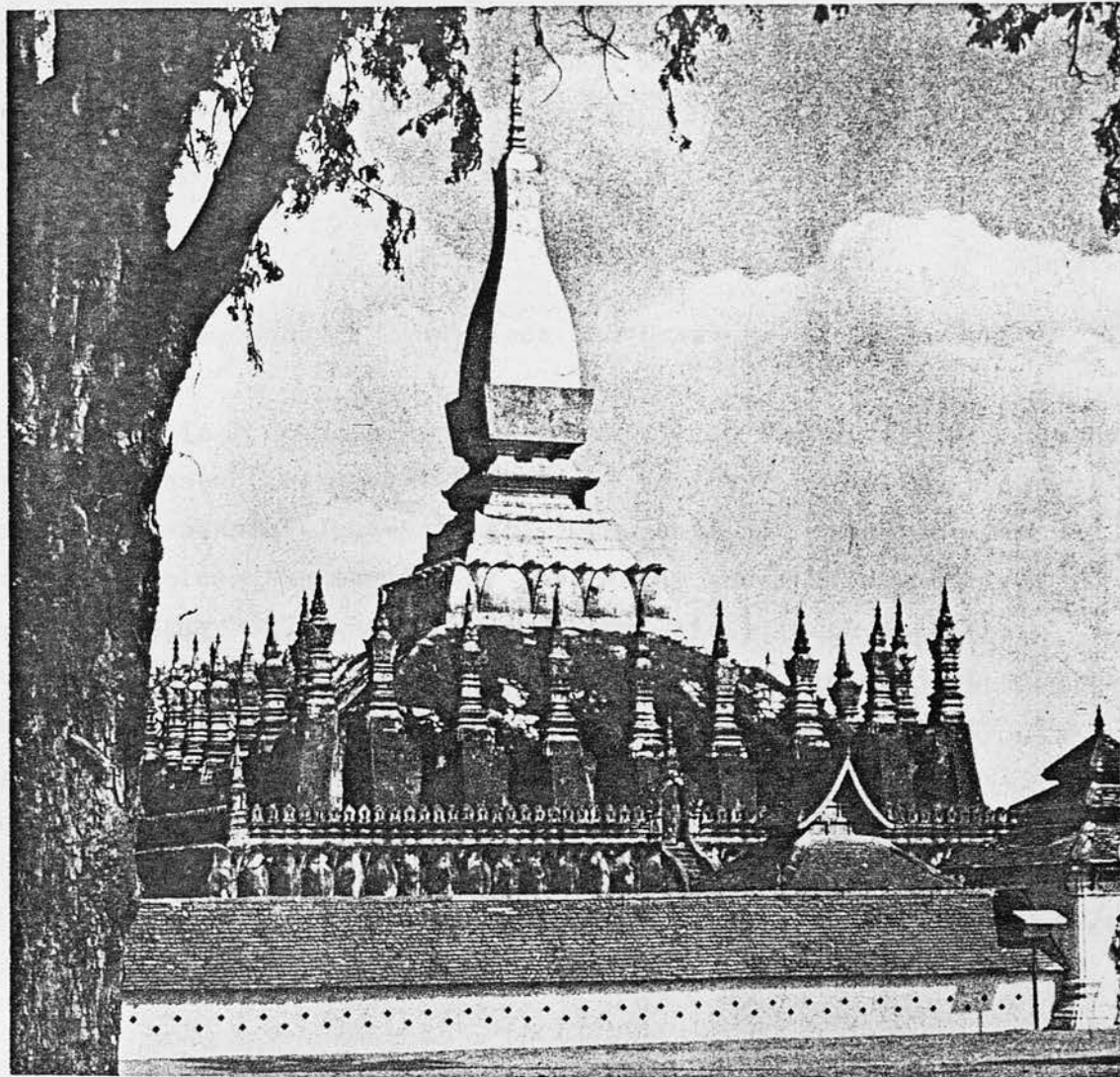


Fig.123 Laos - That Luang, Vientiane. Built 1586 and restored during 18/19th-centuries. The finial of this, the greatest stupa in Laos, is unique.

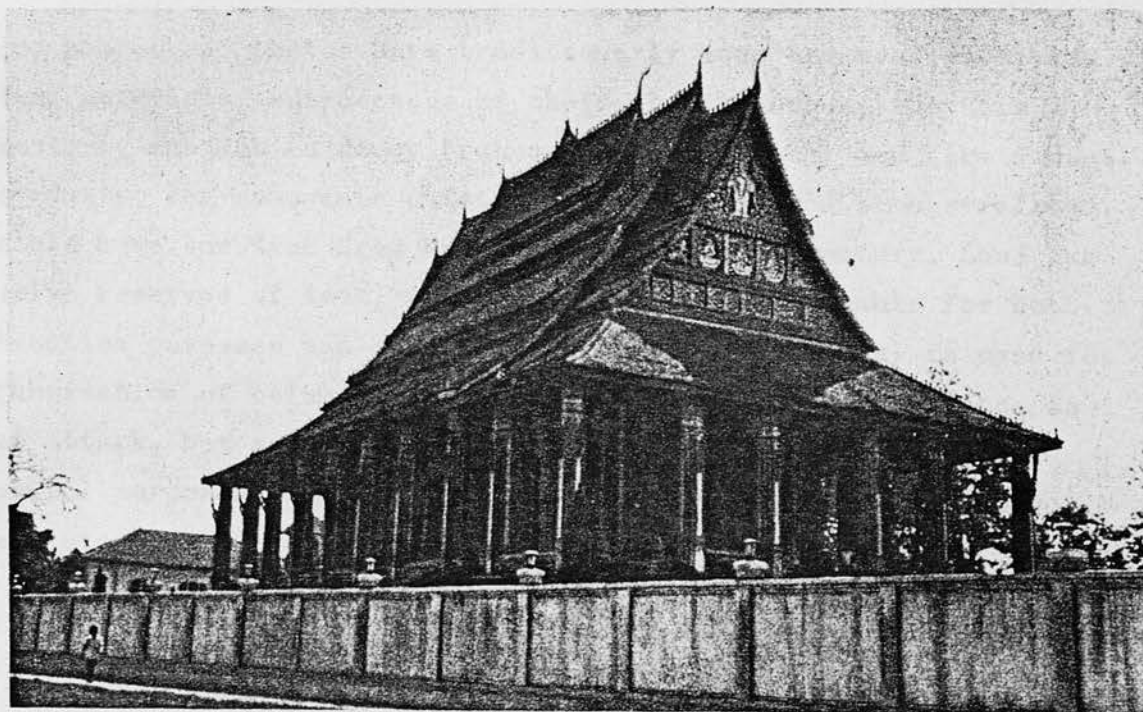


Fig.124 Laos - Vat Praphra, Vientiane. 19th-century reconstruction.

4. CAUSES OF DECAY

1. INTRINSIC

Location

a) Microclimate, Subsoil Conditions and Drainage

Laos has a tropical monsoon type of climate with three distinct seasons : a) cool/dry season (November-February); b) hot/dry season (March-May); and c) hot/wet season (June-October). Monuments and sites located at lowland sites along the margins of the Mekong and its tributaries (Bang-Hieng, Bang-Fai, Ngum, Khan and Seng, etc.), such as Pakse, Savannakhet, Thakhek, Vientiane and Luabg Prabang, are subject only to light rainfall averaging 1,270-1,778 mm per annum, the majority of which falls during the Southwest Monsoon (June-October). Subsoil conditions at these lowland sites are good, but at upland sites on the northern upland of the Bolovens Plateau (900-1,800 m) laterised soils are widespread, and poorly-drained, saturated sites, are subject to slippage and subsidence.

Materials

a) Timber and Bamboo

Timber, bamboo and thatch have traditionally been the most widely used building materials, but because of their organic nature they are particularly subject to decay (rot and insect attack) and fire damage. Consequently, few monuments constructed of timber and timber-related materials have survived from before the nineteenth century. Laos has extensive reserves of teak, oak and other timbers suitable for both construction purposes and carving. Teak (*Tectona grandis*) is used for the fabrication of columns because of its comparative resistance to insect attack, but softer, more easily carved woods are used for ornamental purposes, such as finials, bargeboards, doors and door frames, etc.).

b) Stone

Although Laos possesses extensive supplies of sandstone, laterite, granite and other stones suitable for construction purposes, they are rarely used other than for the construction of fortifications and stupas.

Materials (cont.)

Porous building stones, such as sandstone and limestone, are subject to decay as a result of a) the crystallisation of salts drawn from the subsoil by capillary action, and b) the establishment of fungi, mold, moss and lichen at lowland sites.

c) Mud and Unbaked Brick

There are no surviving examples of monuments and sites constructed of mud (adobe) or unbaked brick.

d) Baked Brick and Terracotta

Well-baked bricks have been widely used in the construction of fortifications, temples and monasteries. Terracotta and glazed, polychrome fireclay are used for ornamental purposes.

e) Binding Materials

Lime mortar is the principal binding material used in the construction of baked brick structures. Normally the process of decay is slow, but where rice husks, straw or other organic materials have been added to the lime, the process is accelerated as a result of insect attack.

f) Metal

Copper, bronze, gold and silver are widely used in the casting of free-standing images and bells used for the ornamentation of temples and domestic shrines. Iron is widely used in the fabrication of fastenings, particularly in timber structures, and armatures for ornamental sculpture. Bronze disease and corrosion are widespread at sites subject to high relative humidity.

g) Stucco and Other finishes

Lime stucco has been used to protect and ornament stone and baked brick structures in Laos since the sixth century A.D. Fungi, moss and lichen cause discolouration and, where capillary action has caused the support to become saturated or the crystallisation of soluble salts has occurred, cracking and spalling may take place.

Materials (Cont.)

h) Ornamentation

Terracotta and glazed polychrome tiles and ornaments (often of Chinese origin), glass and porcelain pieces, copper and bronze, carved stucco, lacquer, gilding, mother-of-pearl inlay and carved wood, are all used to ornament structures in Laos. Terracotta, glazed polychrome ware (roof tiles etc.), glass and porcelain pieces (set in wet lime stucco or pitch) weather well, but are subject to physical damage (vandalism). Copper and bronze images and temple fittings and furnishings are subject to bronze disease because of the prevailing environmental conditions. Carved stucco, which is widely used to ornament stupas and temples, is subject to discolouration by cryptomatic growths (algae, fungi, moss and lichen) and to separation and cracking due to water penetration and the crystallisation of soluble salts as a result of capillary action. Lacquer, gilding and mother-of-pearl inlay, are widely used to ornament furniture and fittings as well as palaces, audience halls and temples; however, dimensional instability caused by variations of relative humidity results in splitting and flaking. Wood carving is one of the traditional crafts of Laos and is lavishly applied to windows, doors, suspended ceilings, balustrades, furniture and gable ends.

i) Wall Paintings

Wall paintings, executed in tempera on a ground of dry lime plaster (secco), are becoming increasingly rare due to vandalism, lack of maintenance and the normal process of weathering. Flaking and separation of the paintlayer, crumbling and splitting of the ground, efflorescence, fading and discolouration are common problems.

Construction

a) Substructure

Foundations are traditionally shallow and differential settlement and slippage are common problems at sites subject to regular inundation and saturation as a result of subsoil conditions and drainage.

b) Superstructure

In common with their neighbours, the Vietnamese, the Laos developed a simplified system of stepped beams and brackets to support the massive timber triple roofs of temples, palaces and other structures. The earliest surviving baked brick and stone structures, such as fortifications

and stupas, are constructed using the monolithic system of construction.

2. EXTRINSIC CAUSES

Actions of Man

a) Lack of Maintenance

Because of the situation prevailing since the establishment of Laotian independence in 1953, there has been no regular programme of maintenance in Laos and, to all intents and purposes, the Department of Archaeology at Vientiane had, at the time of the fall of the Government of the Royal Lao Kingdom on 2 December 1975, completely lost control of the situation. At the present time, the authority of its successor, the Government of the People's Democratic Republic of Laos, is restricted to Vientiane, the remainder of the country being under the de facto authority of the Chinese and the Vietnamese. The situation has now reached a critical stage.

b) Abandonment and Squatting

Abandonment and squatting are major problems and arise from the civil war which, with varying degrees of intensity, lasted from 1955 until 1975. The attitude of the present Government to Buddhism and other religious practices is unknown. Should it be antagonistic, as for example is the Government of neighbouring Democratic Kampuchea, then religious structures are liable to be progressively abandoned in the future.

c) Robbery and Vandalism

Robbery and vandalism are also major problems, monuments and sites located in areas outwith the Government's control being stripped of their furniture and fittings, images and wood carvings, etc., and smuggled across the Mekong into Thailand and thence via Bangkok to Hong Kong and Singapore. The traffic is not new, however, the 'Emerald Buddha' being removed from Vientiane to Bangkok in the late 19th century.

1. Department of Archaeology, Vientiane. 'Summary of Laos Country Paper', in 'Proceedings of the SEAMES Preparatory Conference on the Restoration and Animation of Historic Sites for the Purpose of Establishing the ARCAFA in Phnom Penh', 4-8 December 1972. p.10.

d) Alteration and Demolition

Monuments in regular use, particularly Buddhist temples and stupas, are often altered and occasionally demolished and reconstructed, it being a meritorious act according to the Buddhist canon. Abandoned structures are often demolished for their materials.

e) Faulty Restoration and Repair

Because of the inability of the Department of Archaeology at Vientiane to exercise authority over the countryside, it has been unable to supervise the restoration and repair of monuments and sites by local government agencies, religious trusts and private individuals. The situation is aggravated by the almost total absence of properly trained specialists in the country.

f) Unauthorised Excavations

Unauthorised excavations are a particular problem at megalithic sites on the Tran-Ninh Plateau, such as Thong Haihin (Plain of Jars).

g) Customary Use

The deposit of smoky, oily and greasy deposits on internal surfaces, particularly wall-paintings, as a result of using paraffin stoves and oil lamps, is a major problem arising from customary use.

h) Change of Use

In times of war, the change of use of structures is an every day occurrence, the impact of which varies according to the particular circumstances prevailing at the time.

i) Urbanisation and Encroachment

Urbanisation and encroachment are negligible.

j) Fire Damage

Fire is a major cause of decay of timber structures.

Actions of Man (cont.)

k) Pollution

Pollution is negligible.

l) War Damage

The exact extent of the war damage inflicted on Laos' cultural heritage between 1955 and 1975 is unknown. According to a report published in 1972, all the monuments and sites in Xieng Khuang province were totally destroyed by artillery fire.¹

Occasional Actions of Nature

a) Earthquakes and Landslides

Earthquake activity is negligible. Landslides are not uncommon in upland areas of the Bolovens Plateau during the Southwest Monsoon (June-October).

b) Volcanic Activity

Volcanic activity is negligible.

c) Flooding

Monuments and sites located in lowland areas along the margins of the Mekong are occasionally subject to flooding.

d) Tsunamis

Laos is a land-locked country and is not subject to tsunamis.

e) Typhoons and Cyclones

Laos is a land-locked country and is not subject to Typhoons and Cyclones.

1. Department of Archaeology, Vientiane. 'Archaeological Sites and Monuments in Kingdom of Laos', in 'Proceedings of the Preparatory Conference on the Restoration and Animation of Historical Sites for the Purpose of Establishing the ARCAFA in Phnom Penh', 4-8 December 1972, pp.319-340.

Prolonged Actions of Nature

a) Precipitation, Relative Humidity, Temperature and Wind

Precipitation, relative humidity and temperature, are the three principal physical causes of decay. The effects of heavy rainfall on monuments and sites is to a great extent dependent upon their exact location, materials and construction, as previously noted under Section I : Intrinsic Causes of Decay (flooding, rising dampness, wet rot, corrosion, etc.), but over prolonged periods other changes of a chemical, micro-biological and biological nature also occur. The effects of these are noted in the following sub-sections (b) to (g). Physical erosion by windborne particulates is negligible.

b) Fungi and Mold

Fungi and mold disfigure many monuments and sites. Those constructed of hygroscopic materials (timber, lime stucco, etc.) are particularly affected. The problem is rendered acute by the total lack of maintenance in Laos previously noted in Actions of Man, sub-section (a).

c) Moss and Lichen

Moss and lichen also disfigure many monuments and sites constructed of hygroscopic materials.

d) Plants and Trees

Plants and trees flourish in the hot and wet conditions prevailing at monuments and sites located along the margins of the Mekong. In some instances, abandoned monuments and sites have been completely overgrown, as for example at Srivotapura, Kay-Fong, Vieng-Kham and Champassak.

e) Insects

Insect infestation is the principal cause of decay of timber and timber-based materials. Drywood termites (Kalotermitidae) and other free-flying pests, such as powder-post beetles (Lyctidae and Bostrychidae), make their home in the timber attacked. Soil or subterranean termites (Hodotermitidae, Rhinotermitidae and Termitidae), known locally as 'white ants', are more numerous and widespread, but need to maintain contact with the ground. Both pests are widespread at lowland sites

Prolonged Actions of Nature (cont.)

subject to high relative humidity. The problem is rendered acute by the total lack of maintenance in Laos previously noted in Actions of Man, sub-section (a).

f) Birds and Bats

Nesting birds and bats cause physical damage to brick and stone monuments by burrowing. Their excrement also causes chemical damage to copper and bronze. Disfigurement of monuments, particularly wall-paintings, is widespread.

g) Animals

Animal damage is negligible.

FIG.125 LAOS - CAUSES OF DECAY

INTRINSIC CAUSES	LOCATION	Microclimate	●
		Subsoil Conditions	●
		Drainage	●
	MATERIALS	Timber and Bamboo	●
		Stone	●
		Mud and Unbaked Brick	
		Baked Brick and Terracotta	
		Binding Materials	
		Metal	
		Stucco and Other Finishes	●
		Ornamentation and Wall Painting	
	CONSTRUCTION	Substructure	●
		Superstructure	
EXTRINSIC CAUSES	ACTIONS OF MAN	Lack of Maintenance	●
		Abandonment	●
		Robbery and Vandalism	●
		Alteration and Demolition	●
		Faulty Restoration and Repair	●
		Unauthorised Excavations	●
		Customary Use	
		Change of Use	
		Urbanisation and Encroachment	
		Fire Damage	
		Pollution	
		War	●
	OCCASIONAL ACTIONS OF NATURE	Earthquakes and Landslides	
		Volcanic Activity	
		Flooding	
		Tsunamis	
		Typhoons and Cyclones	
	PROLONGED ACTIONS OF NATURE	Precipitation	●
		Relative Humidity	●
		Temperature	●
		Wind	
		Fungi and Mold	●
		Moss and Lichen	●
		Plants and Trees	●
		Insects	●
		Birds and Bats	
		Animals	

1. HISTORICAL EVOLUTION OF GUIDING PRINCIPLES

The revelation and subsequent conservation of the archaeological and architectural heritage of Indo-China - Kampuchea (formerly Cambodia), Laos and Vietnam - was a uniquely French achievement involving some of the greatest nineteenth and twentieth century scholars.

Prior to the establishment of the Ecole française d'extrême-orient (EFE0) at Saigon by Auguste Barth, Louis Breal and Abel Bergaigne, in 1898, very little was known of the Royal Kingdom of Laos' heritage of monuments and sites - an amalgam of Burmese, Khmer and Vietnamese influences - other than the observations of adventurers, such as Henri Mouhot, the 'discoverer' of Angkor¹, and Francis Garnier, the leader of the ill-fated Mekong River Expedition of 1866-73², and the writings of amateur antiquarians and collectors, such as the indefatigable Dr. Jules Harmand, who assembled the first collection of Sanskrit inscriptions of Laos³ and later became a Proconsul, and Auguste Pavie, who assembled the first collection of Laotian manuscripts between 1876 and 1895.⁴

The staff of the EFE0 largely concentrated their efforts upon the study of Khmer monuments and the compilation of an inventory of the monuments and sites in Laos. Apart from excavations at Thong Haihin, the so-called 'Plain of Jars', the prehistory of Laos was neglected. Following in the footsteps of Lunet de Lajonquière, whose monumental three-volume 'l'Inventaire descriptif des monuments de Cambodge' was published between 1902 and 1912, Henri Parmentier studied the pagodas of Laos and compiled the first detailed inventory of monuments in the province of Xieng Khuang. Today, the inventory is particularly important because practically all the monuments described by Parmentier have since disappeared as a result of military action in the province.⁵

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1. Mouhot, H. 'Travels in the Central Parts of Indo-China (Siam), Cambodia and Laos', 2 vols., London, 1864.
 2. Garnier, F. 'Voyage d'exploration en Indo-Chine, effectuée pendant les années 1866, 1867 à 1868', 2 vols., Paris, 1873.
 3. Translated by the Dutch orientalist, H. Kern between 1875 and 1877.
 4. Supplemented by L. Finot in 1917.
 5. H. Parmentier's classic 'l'Art du Laos' was published in 1954.

Historical Evolution of Guiding Principles (cont.)

The restoration of monuments in Laos by architects of the EFEO began in 1914 with the restoration of the That Si Chanand at Vientiane by Charles Batteur. In 1931, Louis Fombertaux began the restoration of the That Luang at Vientiane and five years later, in 1936, Tiao Souvanna Phouma began the restoration of the Vat Prakeo. The ancient walls of the ancient capital at Vientiane were discovered by J.Y. Claes in 1937 using aerial photography. The events of 1942-45 and the ensuing independence movement put an abrupt end to the work of the EFEO in Laos, and in 1947 the responsibility for conserving the nation's heritage of cultural property was transferred to the Royal Lao Government. From 1955 until 1975, the country was in an almost continuous state of war. The Agreement on Restoring Peace and National Concord, signed on 21 Feb 1973, confirmed the de facto division of Laos into two independently governed zones. In the wake of the Communist victories in the Khmer Republic and Vietnam, the Royal Lao Government fell on 2 December 1975. During this time little conservation work was undertaken - indeed many monuments, particularly in Xieng Khuang province were destroyed.

2. POLICY AND PROGRAMMES

National Conservation Policy

Because of the massive financial burden of the war between 1955 and 1975, the conservation of the Laotian cultural heritage was relegated to a position of relative insignificance and the Government of the Kingdom of Laos did not have a national conservation policy.

Conservation Programmes

Between 1955 and 1975 no important excavations or restorations were undertaken in the Kingdom of Laos, and the only archaeological discoveries made during the period were the results of road works and other public works. However, in 1972 the Department of Archaeology announced ambitious plans to excavate prehistoric sites in the vicinity of Luang Prabang and the Mahaxay Caves in Khammouane Province; and to re-survey the nation's surviving classified historic monuments with a view to consolidating the long-outdated national inventory.

3. INTERNATIONAL TECHNICAL COOPERATION

Bilateral Cooperation

In 1968-69, the French Government sent a mission from the Ecole Francaise d'Extreme-Orient (EFE0) to Laos to prepare an inventory of the national collection of religious objects at the Wat Ho Prakeo and the Wat Sisaket at Vientiane.

International Governmental Agencies

The Democratic Republic of Laos remains a member of the United Nations (UN) and its sister agency the United Nations Educational Scientific and Cultural Organisation (UNESCO).

In 1973, UNESCO sent an expert mission to the former Kingdom of Laos at the request of the Royal Lao Government to prepare a programme of restoration for a number of monuments, including the Wat Phon, and to compile an inventory of monuments damaged by military action.¹

The former Kingdom of Laos was also a member of the South East Asian Ministers of Education Organisation (SEAMEO), and an enthusiastic supporter of the Applied Research Centre for Archaeology and the Fine Arts (ARCAFA) proposed for Phnom Penh until the fall of the Government of the Khmer Republic in 1975.

International Non-Governmental Agencies

Neither the former Kingdom of Laos nor the present Democratic Republic of Laos has a national committee for the International Council on Museums (ICOM) or the International Council on Monuments and Sites (ICOMOS).

Private Foundations

Only the Ford Foundation has been active in Laos, a number of trainees being employed on the Mekong Archaeological Survey, under the direction of the Otago University, New Zealand, until the events of 1975.²

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1. UNESCO, 'Report of the Director-General on the Actions of the Organisation in 1973', General Conference, 18th Session, Paris, 1974, Section II : Social Services, Humanities and Culture, UNESCO, Paris, 1975, p.84.
 2. Lyons, E. Op.Cit. p.2.

1. LEGISLATION

Legislation relative to the classification, conservation and protection of cultural property in Laos - today known as the People's Democratic Republic of Laos - is almost entirely French in origin, dating from the period 1900-1940. Constitutional changes have amended the law over the last thirty years, but in general it remains unchanged from the days when Laos - together with Cambodia and Vietnam - formed the French colony of Indo-Chine.

The first statute to extend legislative protection to '...monuments and objects having an historic or artistic interest...' in Laos was the Statute of 9 March 1900.¹ Five years later, the Statute of 15 April 1905 provided for the classification of the said monuments and objects.² The Statute of 18 May 1908³ extended the provisions of the Statute of 9 March 1900. The principal law relative to the classification and protection of historic monuments in Laos was introduced by the Statute of 15 February 1925,⁴ which promulgated the Decree of 23 December 1924⁵ to extend to Indo-China, subject to terms and conditions, the French domestic Law of 31 December 1913.⁶ The Statute of 30 April 1925⁷ regulated the precise application of the Decree of 23 December 1924, and the Statute of 11 July 1925⁸ regulated the classification, conservation and protection of monuments under the Decree of 23 December 1924. Statutes particularly related to the classification and listing of monuments were enacted on 16 May 1925, 29 April 1930, 1 October 1932, 17 July 1935 and 24 February 1938.⁹ Other statutes relate to the sale and exportation of art and archaeological objects, and ancient objects from historic monuments,¹⁰ and the

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1. Arrête du 9 mars 1900, JOIF, 1900, p.502.
 2. Arrête du 15 avril 1905, JOIF, 1905, p.521.
 3. Arrête du 18 mai 1908, JOIF, 1908, p.975.
 4. Arrête du 15 février 1925, JOIF, 1925, p.250.
 5. Décret du 30 décembre 1913, JORF, 1914, p.129.
 6. Loi du 30 décembre 1913, JORF, 1914, p.129.
 7. Arrête du 30 avril 1925, JOIF, 1925, p.890.
 8. Arrête du 11 juillet 1925, JOIF, 1925, p.1422.
 9. Arrêtes des 16 mai 1925, JOIF, 1925, p.1754; 29 avril 1930, JOIF, 1930, p.1685; 1er octobre 1932, JOIF, 1932, p.3297; 17 juillet 1935, JOIF, 1935, p.2645; and 24 février 1938, JOIF, 1938, p.907.
 10. Arrêtes des 14 février 1923, JOIF, 1938, p.303; 2 juin 1926, JOIF, 1926, p.670; 2 juin 1926, JOIF, 1926, p.1527; and 30 juillet 1931, JOIF, 1931, p.2612.

protection of natural monuments and sites.¹

The majority of the above mentioned Statutes, Decrees and Laws, etc., remained in force until the fall of the Royal Lao Government in 1975 - the principle of conserving the national heritage of cultural property being acknowledged in the Laotian Civil Code² and enforced in the Laotian Penal Code.³ The present situation remains unknown, and so, in the absence of properly documented information, the undernoted outline of conservation legislation is restricted to the situation prevailing up until 1975 only.

Under article 1 of the Law of 31 December 1913 - as extended to Indo-China by the Decree of 23 December 1924, regulated by the Statutes of 15 and 30 April and 11 July 1925, and subsequently amended by the independent Royal Lao Government (1953-75) - hereinafter referred to as the 'July 1925 Statute', both immovable and movable cultural property of artistic or historic interest may be declared to be an historic monument in the public interest, subject to the following provisions :

Immovable Cultural Property

Under article 2 of the July 1925 Statute, immovable cultural property of historic or artistic interest may be classified as an historic monument, in whole or in part, in the public interest. Any site, including such surrounding land as is necessary to insulate and protect the said site, which contains prehistoric formations or strata, the remains of ancient buildings, and objects of artistic, archaeological or religious character, may be classified. The owner of the immovable cultural property and the head of the local administration are both notified of the proposed classification.

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1. Lois des 20 avril 1910, JORF, 1910, p.3693; and 2 mai 1930, JORF, 1930, p.5002. Decrets des 15 novembre 1930, JORF, 1930, p.1291; and 25 aout 1937, JOIF, 1937, p.3119. Arretes des 5 janvier 1931, JOIF, 1931, p.94; 30 avril 1931, JOIF, 1931, p.1570; 4 mars 1933, JOIF, 1933, p.740; 20 decembre 1935, JOIF, 1935, p.4284; and 15 octobre 1937, p.3119.
 2. Code Civil Laotien, articles 93-95.
 3. Code Civil Laotien, articles 100, 101, 220 and 227.

Immovable Cultural Property (cont.)

Under articles 4 and 5 of the July 1925 Statute, the consent of the owner of the immovable cultural property is required before the proposed classification may be confirmed. However, in the absence of such consent, the Legislative Assembly may declare the immovable cultural property to be a classified historic monument, in which case compensation may be claimed for any injury or loss arising therefrom.

Under article 9 of the July 1925 Statute, no immovable cultural property so classified may be destroyed, removed, restored, repaired or altered without prior permission.

Under article 12 of the July 1925 Statute, no structure may be erected adjoining a classified immovable cultural property, without prior permission. Nor may the appearance be altered, and the posting of advertisements, either on, or within the perimeter of a classified immovable cultural property, is prohibited. Ownership may not be transferred without prior permission.

Movable Cultural Property

Under article 15 of the July 1925 Statute, movable cultural property of prehistoric, historic or artistic interest may be classified as an historic monument, in the public interest.

Under articles 17-20 of the July 1925 Statute, all movable cultural property appertaining to a classified immovable cultural property is also considered to be classified and registered, and may not be removed or transferred without prior permission. The owner of a classified movable cultural property must give fifteen days notice of his intention to remove, transfer or sell the said movable cultural property to the head of the local administration. The acquisition of a classified movable cultural property, other than in accordance with article 19 of the said Statute, is null and void, and persons who, in good faith, acquire such a classified movable cultural property, either directly or indirectly, have a right to reimbursement in full by the vendor thereof of the sum paid. Furthermore, the State is empowered to confiscate and resell the said movable cultural property.

Movable Cultural Property (cont.)

Under articles 21-22 of the July 1925 Statute, the exportation of classified movable cultural property from the country is prohibited. Objects of art, statues, sculptures and inscriptions of stone, wood or metal, of Laotian origin, dating from before the nineteenth century, may not be exported unless accompanied by a certificate of non-classification. In the absence thereof, the Customs and Excise may confiscate the said movable cultural property.

Under article 23 of the July 1925 Statute, no classified movable cultural property may be altered, repaired or restored without prior permission, and in accordance with such conditions as may be specified. Classified movable cultural property which has been modified without permission must be restored, whenever possible, to its original condition at the expense of whoever effected or ordered the modification. Accordingly, the State is empowered to inspect classified movable cultural property.

Under article 24 of the July 1925 Statute, the State maintains the right of pre-emptive purchase of any movable cultural property offered for sale within fifteen days of being notified thereof.

Care and Conservation of Historic Monuments

Under articles 25-27 of the July 1925 Statute, the various administrative services of the State, local administrations, public institutions and private owners who are the owners, assignees or guardians of classified movable cultural property, are responsible for the care and conservation thereof, and must take all measures necessary to this effect. If the said cultural property is imperiled and the administrative service, local administration, public institution or private individual concerned does not immediately take the measures considered necessary to ensure the care and conservation of the said movable cultural property, the State may prescribe and enforce the necessary conservation measures and, if required, remove the said movable cultural property to a State museum or depository. Objects of artistic, prehistoric or archaeological interest, structures, mosaics, bas-reliefs, statues, medals, vases, columns and inscriptions, etc., existing above or below the ground of a classified immovable cultural property remain the property of the State.

Excavations and Discoveries

Under article 28 of the July 1925 Statute, no person may excavate or search for antiquities without prior written permission. Two months notice must be given to the head of the local administration who, in turn, must notify the Minister who may issue a permit. Such a permit may be subject to conditions and, if the Minister considers that the excavation is being undertaken in a manner liable to cause injury to the said antiquities, the permit may be cancelled.

Under article 29 of the July 1925 Statute, any person who, as a result of excavations or other works, discovers any ruins, sculptures, inscriptions or any other objects of prehistoric, historic, archaeological or artistic interest at the site of an historic monument, must notify the head of the local administration within twenty-four hours who, in turn, must notify the Minister. Any person failing to declare such a discovery is liable to prosecution, and the said ruin, sculpture, etc., is liable to confiscation.

Under article 30 of the July 1925 Statute, the State is empowered to retain any art object or antiquity discovered during excavations or other works on State property. If the said art objects or antiquities are discovered on private property, the State is empowered to retain them for a period of six months. The State has the right of pre-emptive purchase.

Penal Provisions

Under article 35 of the July 1925 Statute, conservators, inspectors and guardians attached to a museum or archaeological store, monument or group of monuments, are responsible for enforcing the above mentioned provisions.

Other Provisions

Under article 38 of the July 1925 Statute, the State is empowered to enter and inspect any classified historic monument and to regulate the reproduction thereof by painting, drawing and still or cine-photography, by the levying of a special tax - the receipts from which accrue to the

Other Provisions (cont.)

State and which may be used for the development of collections of classified movable cultural property and the conservation of classified immovable cultural property.

Laotian Civil Code

Under articles 93-95 of the Laotian Civil Code, any person who discovers any object of gold or silver or any precious object hidden or buried in a cave, in the earth, among rocks or in the trunk of a tree, etc., must remit the said object to the head of the local administration within two months. If the said object remains unclaimed, the market value of the said object is divided equally between the finder thereof and the owner of the land wherein or whereupon the said object was discovered. However, if the discovery of the said object was made as a result of the demolition of a pagoda or temple, or the excavation of a ruined pagoda or temple or their outbuildings, the said object remains the property of the monastery.

Laotian Penal Code

Under article 100 of the Laotian Penal Code, any person who destroys or attempts to destroy, or damages a pagoda, Buddha, temple or other religious building or monument; or removes from a pagoda or any other sacred place, statues, gold or silver objects, or other sacred objects, ornaments or decorative objects, may be imprisoned for a period of from five to twenty years with hard labour.

Under article 101 of the Laotian Penal Code, any person who destroys or damages the tombs of the Kings of Luang Prabang or their families, the Governor of Bassac and his family, or any other High Dignitary of the Royal Lao Kingdom of Luang Prabang, may be imprisoned for a period of from five to twenty years with hard labour. Furthermore, any person who destroys or damages the tombs of civil servants may be imprisoned for period of from one to five years; and any person who violates a tomb may be imprisoned for a period of from six months to two years.

Under article 220 of the Laotian Penal Code, any person who voluntarily destroys an altar or guardian's hut in a ricefield or other place, may be imprisoned for a period of from one to six months and fined double the amount of the damage.

Laotian Penal Code (cont.)

Under article 227 of the Laotian Penal Code, any person who, without the approval of the authorities, the proprietor or any other person having a legal interest, cuts down a tree in a reserve surrounding a tomb or place of worship, or in a forest protected by the State, may be fined from five to ten Piastres.

Draft Conservation Legislation

At the time of the fall of the Royal Lao Government in 1975, draft legislation to update the French domestic Law of 31 December 1913 to match the requirements of the independent State was being drafted by the Royal Lao Academy at Vientiane.

2. ADMINISTRATION

The responsibility for conserving Laos' cultural heritage of monuments and sites until 1975 was divided between two Government agencies :

1. Department of Archaeology, Vientiane; and
2. Department of Museums and Libraries, Vientiane.

The administrative situation since the Communist takeover in 1975 is unknown. The undernoted outline of the administrative framework in Laos is therefore restricted to the situation prevailing up until the fall of the Royal Lao Government on 2 December 1975.

Department of Archaeology, Vientiane

The Department of Archaeology, which is under the jurisdiction of the Ministry of Cults, is specifically charged with the responsibility for the classification, conservation and protection of movable and immovable cultural property. The work of the Department is divided amongst three sections :

- i) Office of Archaeological Construction and Restoration;
- ii) Office of Archaeological Research; and
- iii) Office of Museums and Libraries.

Department of Archaeology, Vientiane (cont.)

Because of the almost continuous state of war prevailing in Laos between 1955 and 1975, staff shortages and inadequate financing, the Department of Archaeology had, at the time of the fall of the Royal Lao Government in 1975, been reduced to such an ineffective state, that it had lost control over the majority of classified monuments and sites under its jurisdiction.

In the absence of firm central authority, local administrations have undertaken ill-conceived and poorly executed restorations without specialist advice and in contravention of the July 1925 Statute.

Department of Museums and Libraries, Vientiane

The Department of Museums and Libraries, which is under the jurisdiction of the Ministry of Education, is specifically charged with responsibility for the collection and preservation of objects and documents concerned with Lao arts and traditions. However, up until the fall of the Royal Lao Government in 1975, Laos did not possess a National Museum and the majority of collections were vested in the many Buddhist monasteries scattered around the outskirts of Vientiane and Luang Prabang. The national collection of religious art is housed in the Wat Ho Prakeo and the Wat Sisaket at Vientiane.

Non-Government Conservation Agencies

Because the restoration of monuments and sites is considered to be a meritorious act by followers of the Buddha, the monasteries of Laos play a major part in the conservation of the nation's heritage of cultural property. The work done is, however, often ill-conceived and poorly executed without the benefit of specialist advice.

Founded by the French, Les Amis du Royaume Lao continued to operate under Laotian direction until the fall of the Royal Lao Government in 1975, publishing papers on aspects of Lao arts and traditions in its annually-published journal, 'Bulletin des Amis du Royaume Lao'.

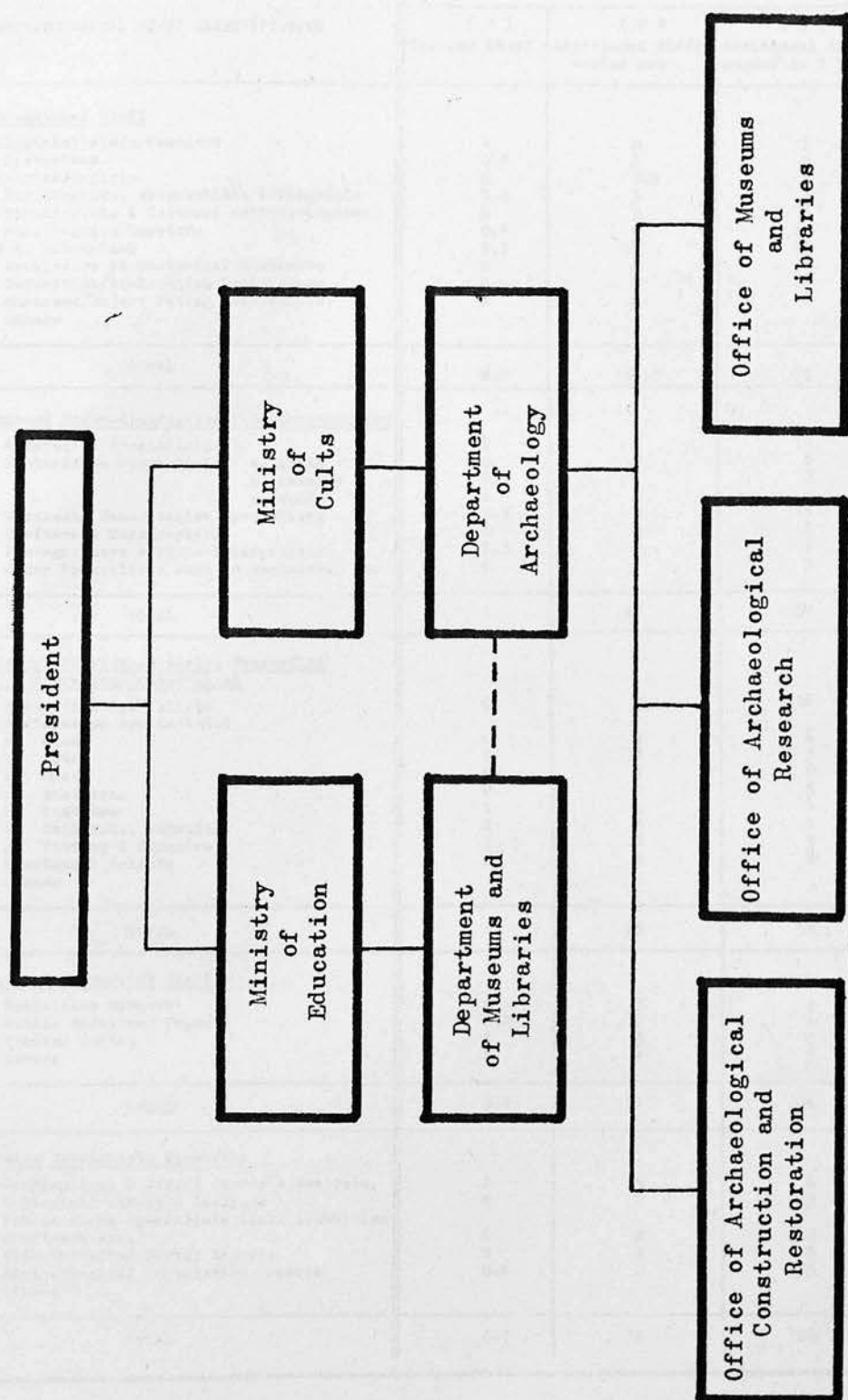


Fig. 126 Laos - National Conservation and Related Agencies (1974).

ARCHAEOLOGICAL STAFF CLASSIFICATION	STAFF AND EMPLOYMENT DATA		
	(1) Present Staff	(2) Additional Staff needed now	(3)* Additional Staff needed in 3 yrs.
<u>Professional Staff</u>			
1. Administrators/Managers	4	2	3
2. Historians	0.7	3	7
3. Archaeologists	0	2.5	5
4. Philologists, Epigraphists & Linguists	0.2	3	5
5. Ethnologists & Cultural Anthropologists	0	3	6
6. Museologists/Curators	0.1	4	10
7.8.9. Librarians	3.7	11	19
10. Architects of Historical Monuments	0	2	6
11. Excavation/Restoration Technicians	0	5	10
12. Monument/Object Dating Specialists	0	4	6
13. Others			
TOTAL	8.7	39.5	77
<u>Monument Excavation/Restoration/Conservation</u>			
1. Excavation Specialists	0	4	10
2. Restoration Specialists: a. Stone	0	2	5
b. Masonry	0	1	2
c. Wood	0	6	9
3. Monuments Conservation Specialists	0.5	4	11
4. Draftmen & Topographers	0	2	6
5. Photographers & Photo-Interpreters	0.5	3	6
6. Other Specialists such as engineers, etc	0	1	3
TOTAL	1	23	52
<u>Cultural Property/Skeletal Excavation and Restoration/Conservation</u>			
1. Excavation Specialists	0	9	18
2. Restoration Specialists:			
a. Stone	0	3	6
b. Metal	0	1	3
c. Wood	0	3	6
d. Skeletons	0	1	3
e. Textiles	0	2	4
f. Documents, Paintings	0	3	5
g. Pottery & Ceramics	1	1	3
3. Draftmen & Artists	0	2	6
4. Others			
TOTAL	1	25	52
<u>Internal Supporting Staff</u>			
1. Exhibition Experts	0	3	5
2. Public Relations Experts	0.2	3	4
3. Trained Guides	1	3	9
4. Others	8	2	7
TOTAL	9.2	11	26
<u>Outside Specialists Resources</u>			
1. Geographical & Aerial Survey & Analysis	0	4	6
2. Geological Survey & Analysis	0	2	3
3. Public works Specialists (lab. technician draftsmen etc.)	0	2	5
4. Climatological Survey Experts	0	2	3
5. Archaeological Legislation Experts	0.1	2	3
6. Others			
TOTAL	0.1	12	20

1. ARCAFA Project Development Office (APDO), 'Report of Task Force on Manpower in Archaeology in the SEAMEO Region', SEAMEO, Phnom Penh, October 1973 (Table 3).

3. FINANCE

Central government financing was wholly inadequate from 1955 until 1975 to match the needs of the Department of Archaeology, and many monuments and sites were destroyed and subsequently disappeared without being properly recorded. Exact figures for Government expenditure are not available. The present situation remains unknown.

4. EDUCATION AND TRAINING

Up until the fall of the Royal Lao Government in December 1975, there were no university-level facilities for the training of archaeologists, epigraphists, museologists, architects, engineers or conservators. Only the Department of Archaeology offered a course in Laotian history (fifty-two hours¹ tuition spread over one year). The present situation remains unknown.

Training Abroad

Up until the events of 1975, only one student had been trained abroad, at the National Museum, Phnom Penh.

Training Requirements

Training facilities are urgently required in the following fields :

1. Training of technicians at non-university level (foremen, craftsmen, restorers of wood, metal, bronze, etc.);
2. Training of personnel at Bachelor of Art (B.A.) level in Laotian art and history at Sisa Vang Vong University; and
3. Specialist post-graduate training in museology, archaeology, epigraphy, conservation, etc.

1. Because of the paucity of training facilities in Laos, the Department of Archaeology was short of specialist staff in many fields and in 1973 it was in need of the following : Archaeologist/Historian (1), Philologist (1), Ethnologist (1), Excavation/Restoration Technician (1), and Monuments Specialist (1). See SEAMEO, 'Report of Task Force on Manpower in Archaeology in the SEAMEO Region', APDO, Phnom Penh, August-October 1973, pp.30-35.

1. MONSOON ASIAN SETTING

1. KEY FACTS

Area	:	329,750 sq. km.
Capital City	:	Kuala Lumpur (pop. 451,723).
Land Use	:	19% cultivated, 27% forest.
Population	:	12.3 million (58% below 21).
Density	:	37 per sq. km.
Growth Rate	:	2.5% per annum.
Life Expectancy	:	62 males, 66 females.
Per Capita GNP	:	US\$680 dlr. (1974).
System of Government	:	Federal Parliamentary Democracy.

2. PHYSICAL SETTING

Situation

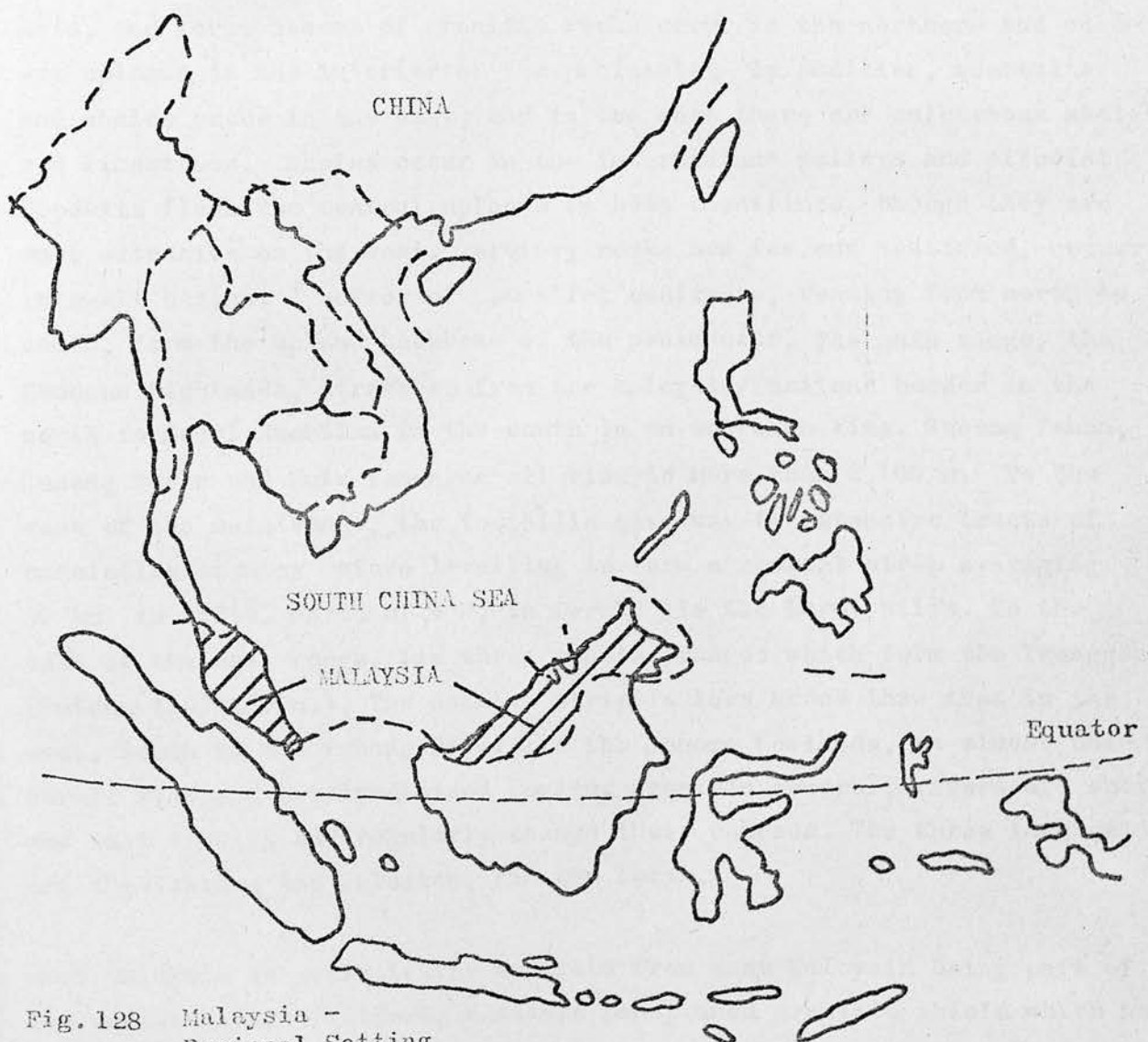


Fig. 128 Malaysia -
Regional Setting
1 : 30 million.

Situation (cont.)

The Federation of Malaysia comprises West Malaysia (Malay Peninsula) and East Malaysia (Sarawak and Sabah). The two are separated by almost one thousand kilometres of ocean (South China Sea). West Malaysia (Area, 131,589 sq. km.) stretches between latitudes 1 17 N and 6 45 N and is bounded by Thailand (north), the Strait of Malacca (west), the South China Sea (east) and the Straits of Johore (south). The capital city, Kuala Lumpur (Pop. 451,728) is situated at latitude 3 9 N. East Malaysia (Area, 198,261 sq. km.) stretches between latitudes 1 5 N and 7 13 N and is bounded by Indonesia (Kalimantan) (south), and Brunei and the South China Sea (north). The capital cities of Sarawak and Sabah, Kuching and Kota Kinabalu, are situated at latitudes 1 33 N and 6 0 N respectively.

Geology, Relief and Drainage

West Malaysia forms part of the Mesozoic land-mass of mainland Southeast Asia, and large masses of granitic rocks occur in the northern and western uplands in the interior of the peninsula. In addition, quartzite and shales occur in the east, and in the west there are calcareous shales and limestones. Shales occur in the intermontane valleys and alluvial deposits flank the central uplands on both coastlines, though they are more extensive on the west. Tertiary rocks are few and scattered, occurring in small basins. A series of parallel coulisses, running from north to south, form the upland backbone of the peninsular. The main range, the Cameron Highlands, stretches from the Malaysia/Thailand border in the north to Negri Sembilan in the south in an unbroken line. Gunong Tahan, Gunong Korbu and Hulu Temengor all rise to more than 2,100 m. To the west of the main range, the foothills give way to extensive tracts of undulating country before levelling to form a coastal strip averaging 30 km. in width. North of 4 N, in Perak, lie the Larut Hills. To the east of the main range, lie three smaller ranges which form the Trengganu Plateau (150-300 m.). The coastal strip is less broad than that in the west. South of the Pahang River lie the Johore Lowlands, an almost uniformly flat and poorly-drained lowland area. In general, rivers are short and fast-flowing and regularly change their courses. The three largest are the Pahang, the Kelantan, and the Perak.

East Malaysia is geologically separate from West Malaysia being part of the ancient Sunda Platform, a stable peneplaned granitic shield which has suffered extensive erosion and submergence, so that today only its higher

parts remain above sea level. Sarawak comprises three areas : a low-lying coastal plain varying from 16 to 80 km. in width and subject to seasonal flooding; a range of foothills averaging 150-300 m. in height; and the Kapuas Hulu, Iran and Tama Abu Ranges of the interior, which rise to over 2,400 m. and form the border with the Indonesian territory of Kalimantan. Sabah comprises four areas : the Western Lowlands; the Western Cordillera; the Central Uplands; and the Eastern Lowlands. Mount Kinabalu rises to 4,089 m. and is the highest point in Kalimantan. In contrast to West Malaysia, the rivers of East Malaysia are mature and slow-flowing and form the principal means of internal communication. The Rajang, Milian and Kalabaken are the three principal rivers.

Climate

The Federation of Malaysia has an equatorial maritime type of climate, characterised by constant mean annual temperatures and precipitation, though greatly influenced by the reversal of wind directions associated with the monsoon regime. In West Malaysia, almost uniform temperatures prevail all the year round, for example: Penang's average mean monthly temperature varies only 2°C from 26°C in December (the coldest month) to 28°C in April (the warmest month). The mean annual temperature is 27°C. However, at hill stations above 1,000 m., mean annual temperatures fall below 18°C. Mean annual precipitation varies considerably from year to year and from place to place. In exposed situations, mean annual precipitation exceeds 6,350 mm.; in sheltered situations, less than 1,500 mm. is not uncommon. There is no dry season, but seasonal precipitation varies considerably because of the influence of the monsoon. There are three seasons : Northeast Monsoon (October-March), which brings strong rain-bearing winds from the South China Sea; Southwest Monsoon (June-September), which brings light winds and little rain; and the Doldrums (April-May and October-November), which bring light winds but heavy rainfall and violent thunderstorms as a result of convection. Because of the protection afforded by the Indonesian island of Sumatra, the western coast of West Malaysia does not experience the full effects of the Southwest Monsoon. However, occasionally south-westerly squalls, known locally as 'Sumatras', occur, which although of short duration are often violent and bring torrential rain. It is not uncommon for over 25 mm. of rain to fall within an hour, and where storms are prolonged as much as 375 mm. of rain may fall within twenty-four hours. At Penang, a maximum of 425 mm. has been recorded within eight hours. Rainfall is

Climate (cont.)

at a maximum in the west from October to January; in the north from August to October; and in the east from October to December.

East Malaysia, in common with West Malaysia, is generally hot and wet all the year round with a high relative humidity. However, in contrast to West Malaysia, temperatures vary considerably between Sarawak and Sabah. In Sarawak, mean monthly temperatures vary less than two degrees from 26.5°C in lowland areas. In Sabah, mean monthly temperatures vary from 23°C to 30°C in lowland areas. Mean annual precipitation varies between 2,500-4,000 mm. in Sarawak and 1,500-4,500 mm. in Sabah. The heaviest rainfall occurs during the Southwest Monsoon (June-September) and Northeast Monsoon (October-March).

Earthquake and Volcanic Activity

The Federation of Malaysia is situated within the 'trans-Asiatic' seismic zone and is considered to be a high frequency zone. Its neighbour, the Republic of Indonesia, is one of the most volcanically active areas in the world.

Soils

Because of the prevailing hot and moist conditions in West Malaysia, laterisation is a feature of most of the soils. Also of note is the formation of acid peaty soils in the lowlands of the western coast of the peninsular. Leaching and soil erosion are also problems. East Malaysia suffers from the same problems but to a less degree.

Vegetation

In West Malaysia, equatorial evergreen forest predominates below 1,500 m. comprising broad-leaved species, such as Chengal, Balau, Merbau, Kapur, and Meranti, some of which grows to a height of more than sixty-five metres, and a dense undergrowth of climbing and parasitic plants. Above 1,500 m. temperate species appear as equatorial evergreen forest gives way to mountain forest. Inland fresh-water swamp forest and mangrove sea-swamp forest is found in isolated pockets on the eastern and western coasts of the peninsular. Casuarina trees are widely distributed on the sandy soils of the eastern coastal plain.

Vegetation (Cont.)

In East Malaysia, tropical rain forest predominates in both Sarawak and Sabah. The coastline is fringed with mangrove sea-swamp forest.

Land Use

Forest cover is extensive in both West and East Malaysia. Cleared areas are given over to the cultivation of rubber, tea, copra, palm oil, and rice.

3. CULTURAL SETTING

Population

The population of West Malaysia (10.4 million) comprises Malays (50%), Chinese (36%), Indians and Pakistanis (11%), Eurasians, Europeans and Others (3%). The aboriginal peoples of the peninsular, the Sakai, Jakun, and Semang, etc., number less than fifty thousand and are restricted to the most inaccessible areas of the country. The average population density is approximately 80 per sq. km.

FIG. 129 WEST MALAYSIA - ESTIMATES OF URBAN AND RURAL POPULATION

	1950	1960	1970	1975	1980	
Urban	1,263	2,410	4,138	5,307	6,720	('000)
Rural	3,927	4,499	4,997	5,150	5,336	('000)

The rural population is largely settled in small 'kampongs' which consist of groups of timber-framed houses built on stilts and roofed with thatch.

The population of East Malaysia (1.9 million) is unevenly spread between Sarawak (1.15 million) and Sabah (0.75 million). The population of Sarawak comprises Iland and Sea Dyaks (38%), Chinese (35%), Melanaus and Others (27%). The average population density is less than 10 per sq. km. and there are few towns whose population exceeds ten thousand people. The population of Sabah comprises Kadazans, Najaus, Bruneis, Muruts, and other tribal groups (58%), Chinese (24%), and Malays (24%). The average population density is less than 12 per sq. km. and in common with Sarawak there are few towns whose population exceeds ten thousand people.

Population (cont.)

FIG. 130 EAST MALAYSIA (SARAWAK) - ESTIMATES OF URBAN AND RURAL POPULATION

	1950	1960	1970	1975	1980	
Urban	67	112	192	260	352	('000)
Rural	518	638	809	943	1,095	('000)

FIG. 131 EAST MALAYSIA (SABAH) - ESTIMATES OF URBAN AND RURAL POPULATION

	1950	1960	1970	1975	1980	
Urban	44	68	109	140	178	('000)
Rural	286	386	541	641	761	('000)

The rural, non-Moslem indigenous population is largely settled in small villages which comprise groups of timber-framed 'long-houses', built on stilts and roofed with thatch.

Language

Malay is the official language of the Federation of Malaysia, but Tamil, Urdu, Chinese and numerous tribal dialects are also spoken. English is the first foreign language taught in schools and is widely understood.

Religion

Islam is the State religion of the Federation of Malaysia, but religious freedom is guaranteed by the Constitution and Taoism, Confucianism, Hinduism, Animism, and Christian beliefs are also practiced.

4. ECONOMIC SETTING

Cultural Tourism

The major centres of cultural tourism in West Malaysia are Penang and Malacca. East Malaysia is less visited.

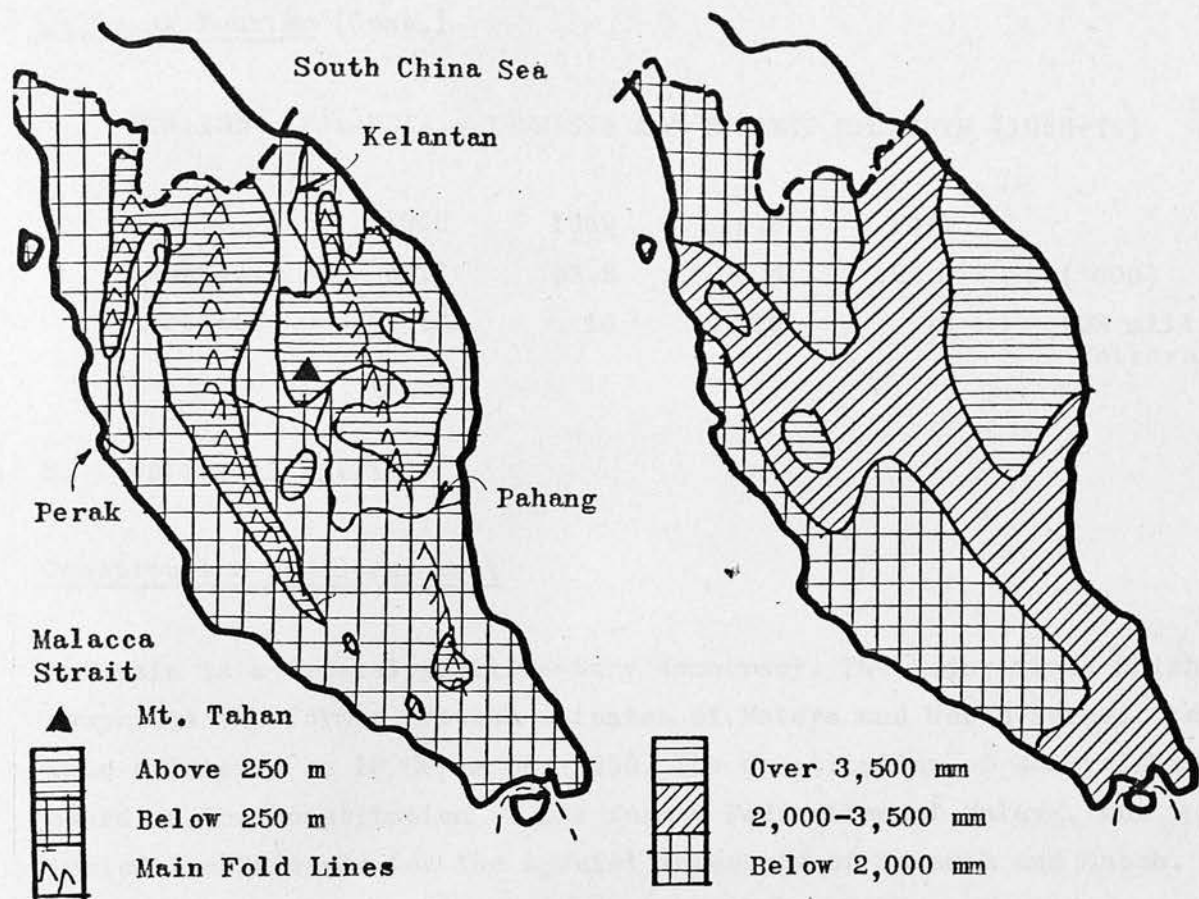


Fig.132 Malaysia (West) - Build (L)

Fig.133 Malaysia (West) - Rainfall (R)

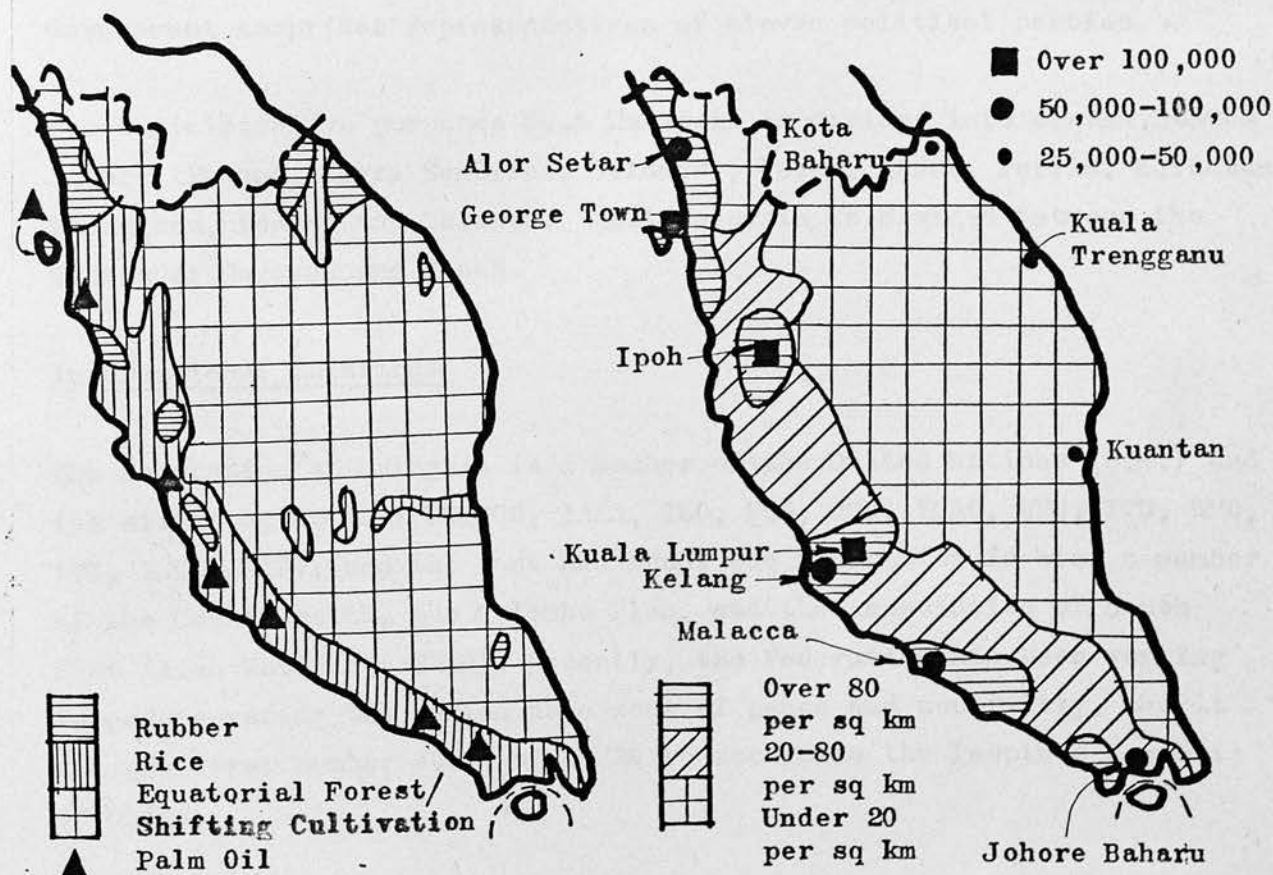


Fig. 134 Malaysia (West) - Land Use (L)

Fig. 135 Malaysia (West) - Population (R)

FIG.136 MALAYSIA - TOURISTS AND TOURIST RECEIPTS (1968-71)

	1968	1969	1970	1971	
Tourists	50.7	53.2	76.4	122.0	('000)
Receipts	15	10	10	13	(US million) dollars

5. POLITICAL SETTING

Constitution and Government

Malaysia is a federal parliamentary democracy. The Federation, which comprises the former British colonies of Malaya and North Borneo, came into existence on 16 September 1963. The Constitution of Malaysia is based on the Constitution of the former Federation of Malaya, but includes safeguards for the special interests of Sarawak and Sabah. Every five years, the nine Rulers of the Malay States elect from among themselves the Yang di-Pertuan Agong (Supreme Head of the Federation). The Prime Minister, Tun Abdul Razak, died on 14 January 1976 and was succeeded by Datuk Hussein Onn, his deputy. The ruling National Front Government comprises representatives of eleven political parties.

For administrative purposes West Malaysia is divided into eleven States : Johore, Pahang, Negri Sembilan, Selangor, Perak, Kedah, Perlis, Kelantan, Trengganu, Penang and Malacca. East Malaysia is divided between the States of Sarawak and Sabah.

International Relations

The Federation of Malaysia is a member of the United Nations (U.N.) and its sister agencies : UNESCO, IAEA, ILO, FAO, WHO, ICAO, UPU, ITU, WMO, IFC, IMCO, GATT, and the Bank and Fund. The Federation is also a member of the Commonwealth, the Colombo Plan, and the Association of South East Asian Nations (ASEAN). Recently, the Federation has been working towards securing the region as a zone of peace and neutrality, and it was the first member state of ASEAN to recognise the People's Republic of China.

2. HISTORICAL BACKGROUND

The first Europeans to reach the Malay Peninsula were the Greeks, who described it as '...the last inhabited land beneath the rising sun itself...', and named it the Golden Chersonese - the 'Golden Peninsula'. Long before the arrival of the Greeks, however, Indian merchants sailed regularly across the Bay of Bengal from the Coromandel coast, borne by the Monsoon. Thus, by the fourth century B.C. a string of Indian settlements were well established along the western coast of the Peninsula and it was those early colonists who are believed to have given the country its present name, Tanah Melayu, which literally translated, means 'the Land of Malaya'.

Prior to the establishment of the Kingdom of Malacca (1402-1511), by the expatriate Sumatran nobleman, Parameswara, in 1402; the Malay Peninsula, which consisted of a few modest principalities, was in turn subject to the authority of the Sumatran Sri Vijaya dynasty (670-1350); the Javanese Majapahit dynasty (950-1478); and the Siamese Ayutthya dynasty (1368-1757). Parameswara, who had been forced to flee from Sumatra with a small band of supporters, settled first of all on the island of Singa-pura¹, but after murdering his host and attempting to seize the throne, he was again forced to flee to Malacca. In return for favourable trading rights, the Chinese extended their protection to the embryonic kingdom. Thus freed from servitude to the Siamese, it flourished, becoming in time the supreme maritime power in Southeast Asia.

The reason for Malacca's meteoric growth was its position on the Malacca Strait, through which most of the trade between Europe, Arabia, India and China flowed. The trade attracted increasing numbers of Arabian merchants who settled in Malacca from the beginning of the fifteenth century onwards. With them they brought their own traditions and, more importantly, their own religion - Islam. Amongst the first to be converted to the new faith was Parameswara, and thereafter Malacca became the fountainhead of Islam in Southeast Asia.

1. Singapore.

Historical Background (cont.)

By 1477, Malacca exercised authority over most of the Malay Peninsular and Sumatra. Its increasing prosperity thereafter began to attract the interest of the Portuguese, however, and in 1511 the City of Malacca was eventually captured. The Dutch in turn captured the city in 1641, but only after an eight year siege that caused the widespread destruction of much of the Dutch section of the city, including the city walls; Santiago Fortress, built by the Portuguese Viceroy, Alfonso de Albuquerque, in 1511 after the fall of the Kingdom of Malacca; and St. Paul's Church, built by Duarte Coelho in 1521, and the site of religious observances and preaching by St. Francis Xavier. Under the Dutch, the importance of Malacca rapidly declined as efforts were concentrated on the development of Java.

The remarkably rapid growth in trade between India and China that followed the granting of the monopoly of trade with Kwangchow to the Select Committee of the British East India Company in 1757, brought about a change of British government policy towards the Malay Peninsular. Thenceforward, determined efforts were made to establish a settlement other than Bencoolen in Sumatra, which was considered to be too far removed from the main trading routes that passed through the Malacca Strait and the Sunda Strait. The need for a naval base on the eastern side of the Bay of Bengal, from which to control British interests in India, added a sense of urgency to the situation, and in 1783 a settlement was established at Penang. A decade later, following the defeat of the Dutch in 1795, the British occupied Malacca, and, using it as a base for their operations, accomplished the defeat of the Dutch in Java. However, under the provisions of the London Convention of 1814, the Dutch regained all their former possessions, including Malacca and Java. The British retained their foothold at Bencoolen for a further ten years, finally exchanging it for Malacca in a deal that ensured Dutch ascendancy in the Indonesian Archipelago. During the interregnum, the British had firmly established themselves at Singapore, giving them complete control over the passage of vessels through the Malacca Straits. In 1826, the three British bases at Penang, Malacca and Singapore, were united to form the Straits Settlements Presidency under the jurisdiction of the Governor of Penang. Four years later, the Straits Settlements were reduced from the status of a presidency to a residency, subject to the authority of the Governor of Bengal. Finally, the seat of the residency

Historical Background (cont.)

was transferred from Penang to Singapore.¹ Thereafter, the British gradually extended their authority throughout the Malay Peninsular, and by 1914 British suzerainty was acknowledged by eight Malay States, namely Kedah, Kelantan, Negeri, Perak, Perlis, Selangor, Sembilan and Trengganu.

Elsewhere, in British North Borneo, the British had been gradually establishing their authority since 1839. In 1888, the Sultanate of Brunei became a protectorate of the British Crown, and the neighbouring provinces of Sabah and Sarawak were granted the status of colonies. Each, however, was slow to benefit from the policy of advancement and innovation pursued by the British in the Malay Peninsula until 1929, when the massive Seria oilfield was discovered off the coast of Brunei.

In 1890, the Straits Trading Company built a tin smelter at Pulau Brani in the Malay Peninsula to supply tin to the newly-founded canning industry and by 1895 it was producing over one-third of the country's total output. At about the same time, the Director of the Singapore Botanic Gardens, Henry Ridley, succeeded in persuading the local Chinese plantation owners in Malacca to plant rubber seeds cultivated at London's Kew Gardens. More importantly, perhaps, he invented a commercially profitably system of tapping the raw rubber.

Tin, rubber and oil were the three principal products upon which the prosperity of the British Empire rested in the Malay Peninsula and British North Borneo, and so long as the industrialised world economy continued to expand, it flourished. But when it faltered, as it did during the thirties, so the tin, rubber and oil industries suffered a recession, causing widespread unemployment and hardship to the mainly Chinese and Indian immigrant workforce that persisted until the outbreak of the Second World War in Europe in 1939. The extension of that war to Asia in 1942 was to have profound effects for the peoples of the Malay Peninsula.

1. For background history of Singapore (1819-1977) see relevant country section.

Historical Background (cont.)

The fall of Singapore on 15 February 1942, after a campaign lasting exactly one week; the Japanese Army advancing southwards down the Malay Peninsula to attack from the north, across the undefended Johore Strait, was considered by many at the time to be the greatest single military defeat in British history. Once and for all, the myth of European invincibility had been demonstrated by an Asian power, and in the aftermath of the Second World War a growing nationalist movement flourished in the Malay Peninsula.

Singapore became a crown colony in 1946, but the rest of the Malay Peninsula and British North Borneo continued to be administered by the British until 1957. The so-called 'Emergency', which broke out in 1948, led by Chinese Communist guerillas, many of whom were trained and armed by the British in their fight against the Japanese from 1942 to 1945, lasted until 1960. Three years later, in September 1963, in the face of intense Indonesian opposition, the newly independent states of Malaya and Singapore joined with Sarawak and Sabah to form the Federation of Malaysia. Alone among the Malay-speaking former British territories, Brunei refused to join the Federation, unwilling to see its vast oil revenues distributed amongst its less wealthy neighbours. Differences of opinion about financial and economic matters, and widely separated views on matters of general policy, forced Singapore to withdraw from the Federation in 1965.

Racial strife still imperils the delicate balance upon which the Federation of Malaysia was founded, the Malay, Indian and Chinese sections of the population each pursuing their own sectional interests. Since 1974, all Malaysians have had to declare their allegiance to the state through citizenship, a move intended to integrate the Overseas Chinese section of the community, the majority of whom have traditionally held dual citizenship.

3. CULTURAL HERITAGE

WEST MALAYSIA (PENINSULAR MALAYA)

Although subject to repeated invasion and settlement since the fourth century B.C. (by the Indians, Sumatrans, Javanese, Thais, Moslems, Portuguese, Dutch and British), West Malaysia possesses few monuments and sites that date from before the foundation of the Kingdom of Malacca (1402-1511 A.D.).

1. ARCHAEOLOGICAL

In the light of recent discoveries in north-eastern Thailand,¹ which indicate that Southeast Asia was not merely subjected to cultural migration, but that it was in fact one of the world's major centres of cultural innovation, the chronology of West Malaysian prehistory is currently the principal topic of debate and research. The classical European 'three-age' system (palaeolithic, mesolithic and neolithic) of chronology and cultural interpretation is no longer considered to be appropriate to the analysis of West Malaysia's cultural heritage of archaeological sites, which are predominantly of the Hoa-Binhian culture. The principal sites (cave-shelters) are situated in the states Kelantan and Pahang, at Ulu Kelantan (Gua Cha, Gua Musang, Gua Tampan, Gua Chawan, Gua Batu Ner, Gua Madu, Gua Jaya), Temerloh (Gua To'Long) and Raub (Gua Bukit Kechil). Similar sites are found in the states of Perlis and Perak. Of more recent origin are the numerous alignments of unshaped granite monoliths found in the states of Malacca and Negri Sembilan.²

2. ARCHITECTURAL

West Malaysia's architectural heritage is largely confined to the western states of Perlis, Kedah, Penang, Perak, Selangor, Negri Sembilan, Malacca and Johore, which are linked by the Straits of Malacca. The earliest surviving monuments reflect the influence of Late Andhra (c.50-320 A.D.) and Gupta (320-600 A.D.) India, and the Indianised Fu-nan Empire (c.1st century-627 A.D.) of southern Cambodia. Indian influence continued to predominate the cultural development of West

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1. See Selheim II, Wilhelm G. 'New Light on a Forgotten Past', in National Geographic, Vol.139, No.3, March 1971, pp.330-339.
 2. Anon. 'Guide to Ancient Monuments and Historic Sites', Museums Department, Federation of Malaya, Kuala Lumpur, 1959.

Architectural Heritage (cont.)

Malaysia until the fifteenth century A.D., due to the peninsula's continuing tributary status to the Indianised kingdoms of Sri Vijaya (670-1350 A.D.), Sailendra (732-860 A.D.) and Majapahit (950-1478 A.D.), and the Thai (proto-Khmer) kingdom of Lopburi (c.10-13th century A.D.). The introduction of Islam into West Malaysia in the fourteenth century A.D. and the foundation of the Kingdom of Malacca (1402-1511 A.D.), marked the beginning of contemporary Malay history and the development of a distinctly local architectural tradition. However, from the beginning of the fifteenth century, West Malaysia came under the influence of the Portuguese (1511-1641 A.D.), the Dutch (1641-1795 A.D.) and the British (1786-1957 A.D.), so that colonial building types were introduced alongside local building types. The influence of the Chinese has also been widespread in urban areas since the early nineteenth century.

Three distinct periods in the development of the art and architecture of West Malaysia are generally recognised :

1. Indianised Period : c.4th century B.C. - 15th century A.D.
 - a) Andhra (c.50-320 A.D.)/Gupta (320-600 A.D.)
 - b) Fu-Nan (1st century-627 A.D.)
 - c) Sri Vijaya (670-1350 A.D.)
 - d) Sailendra (732-860 A.D.)
 - e) Majapahit (950-1478 A.D.)
 - f) Lopburi (c.10-13th century A.D.)
2. Islamic Period : c.14th century onwards
3. Colonial Period : 1511-1957 A.D.
 - a) Portuguese (1511-1641 A.D.)
 - b) Dutch (1641-1795 A.D.)
 - c) British (1786-1957 A.D.)

Building Types

The building types of West Malaysia are varied and reflect contact with many countries. However, few monuments have survived (or have yet been discovered) from the Indianised period of the Peninsula's history, and the country's artistic and architectural heritage is largely represented by buildings of the Colonial and Islamic periods which developed independently but parallel with each other.

a) Fortifications :

Because of the strategic importance of the Straits of Malacca, the western coastline of West Malaysia is dotted with fortifications built by the Malays, the Portuguese, the Dutch and the British. The earliest are built of unbaked brick and rammed earth, bamboo reinforced mud, coral laid in compacted alluvium, and laterite blocks. Later, baked brick laid in lime, and ashlar were used. The earliest surviving example, is the Portuguese fortress at Malacca, Fort Santiago (known also as A Famosa and Kota Melaka), built by the Portuguese Viceroy, Alfonso de Albuquerque, after the capture of Malacca in 1511 A.D. Only the Porta de Santiago (gateway) has survived intact. Nearby are the remains of the St. John's Fort. The oldest Malay fortifications are to be found at Kampong Johore Lama, the former site of the courts of Sultan Alau-u-din Ri'ayat Shah (1527-1564 A.D.) and Sultan Ali-Jalla Abdu'l-Jalil (1571- A.D.) and royal capital from 1540 until 1571. The fortifications, comprise an irregular area about 125 ha. in extent enclosed by defensive earth banks and ditches and having a perimeter of approximately 1,000 m. A spring within the fortifications provided the occupants with a constant supply of fresh water. At the southwest corner of the rectangular site there stands a steep rocky promontory known as Tanjong Batu, upon the crest of which stands the Kota Batu (the stone fort), built on the orders of Sultan Alauddin Ri'ayat Shan in c.1545 A.D. The fort measures approximately 61 m. by 152 m. and is built of earth and coral blocks on a stone base. A layer of plaster 35-50 mm. in thickness separates the stone base from the earth ramparts above it. Other Malay fortifications of note are situated at Kampong Kuala Kedah (Kota Kuala Bahang, built by masons brought from India during the reign of Sultan Abdullah Mukarram Syah (1760-1797 A.D.) between 1771 and 1780 A.D.), Kuala Selangor (Kota Selangor, later Fort Altingsburg, and Kota Tanjong Keramat, later Fort Utrecht), Lukut (Fort Lukut, built by Raja Busu in the early nineteenth century), and Klang (Raja Mahdi's Fort, built in c.1866). The earliest surviving Dutch fortifications are situated at Telok Gedong (Warehouse Bay), Pangkor Island. The present remains at the site date from 1745 A.D. The earliest fortifications were built of wood in 1670 A.D. to protect the Dutch monopoly of the Perak tin trade. A decade later, a brick structure replaced the original wooden structure, but in 1690 A.D. the Dutch garrison was overrun and massacred by a large party of Malays and the

fortifications were destroyed. The fortifications were rebuilt in 1745 A.D. and abandoned three years later and have remained unoccupied ever since. Other Dutch fortifications of note are situated at Kuala Linggi (Fort Filipina, built in 1757 A.D. and named after the daughter of the Dutch Governor-General, Jacob Mosel) and Sempang Linggi (Kota Sempang). The earliest surviving British fortifications are situated at Georgetown, Penang where, following the founding of the first British settlement on the Straits of Malacca by Lt. Commander (later Capt.) Francis Light on 12 August 1786 A.D., a wooden stockade was constructed at Penaga Point. In 1805 A.D. Penang was promoted to be the Fourth Presidency of India (on an equal footing with Bengal, Madras and Bombay) and Light's stockade was replaced by the present Fort Cornwallis, named after the then Governor of Bengal, in 1808-1810 A.D. Built of baked brick laid in lime mortar and stone blocks, the fortifications were constructed by convict labour.

b) Domestic Buildings :

Until 1957, when the Federation of Malaya became independent, the architectural character of such settlements as Georgetown, Kuala Lumpur, Johore Baharu and Ipoh, was largely determined by the disposition of the ubiquitous Chinese 'shop-houses' linked together by the 'five foot way'. However, since 1957 an influx of foreign capital has resulted in soaring land values and the clearance of the traditional shop-house from valuable central area sites - particularly in Kuala Lumpur. Each Chinese community also possesses a number of Kongsis (Clan) halls, of which the Leong San Tong (Dragon Mountain Hall) of the Khoo Kongsis in Cannon Square, Georgetown, Penang is the most celebrated. Built by the prosperous Khoo clan in 1906 A.D. on the site of two earlier halls, it is ornately decorated with gold leaf, mother-of-pearl inlay, lacquer, green granite carvings and a roof constructed of glazed polychrome porcelain tiles with dragons and other mythical beasts.¹ The earliest surviving European houses are found at Malacca near Fort St. John on the south bank of the Malacca River. Built in the early seventeenth century by the Portuguese garrison, they comprise two storey terraces built of baked brick and have tiled roofs. The later Dutch houses, built to house local merchants in the eighteenth century, are renowned for their

1. The porcelain decoration is estimated to weigh 25,000 Kg.

Building Types (cont.)

ornately carved wooden storm doors. The most outstanding examples are situated in Heeren and Jonker Streets in the historic core of the city near to the old harbour. The earliest British houses are situated at Georgetown, Penang. The earliest and smallest are brick-built bungalows set within small compounds. The later houses, dating from the early and mid-nineteenth century, are two storeys high and often have balconies. Outwith the larger settlements, the rural population still live in small 'kampongs' (villages) which comprise a number of timber-framed houses, built on stilts, with 'attap' (thatch) roofs. Access is via a stone or (more recently) concrete staircase. The traditional attap roof covering is gradually being replaced with corrugated iron in more prosperous communities.

c) Wells :

Wells are often associated with historical personages or events and two are particularly noted in West Malaysia. The first is the Perigi Raja well situated at the base of Bukit China in Malacca. According to local tradition, it was built by followers of the Princess Hang Li Po to honour the Sultan of Malacca, Mansur Syah (1459-1477 A.D.), who granted the Chinese permission to settle on Bukit China. The second is the Batu Pahat well situated at Kampong Batu Pahat, Johore. According to local legend, it was dug by the Thai Admiral Awi Dicu in the fifteenth century A.D. prior to his attack on the Kingdom of Malacca (1402-1511 A.D.).

d) Chinese Burial Grounds :

The Chinese Ming Dynasty (1368-1643 A.D.) sent an Envoy to the Kingdom of Malacca (1402-1511 A.D.) in 1409 A.D. and until the discovery of tin in the nineteenth century A.D. and the ensuing influx of immigrants into Kuala Lumpur, the Chinese community of Malacca was the largest in the Malay Peninsula. The Chinese burial ground at Bukit China (China Hill) was founded in the early fifteenth century and is the oldest, largest and most venerable outside of the People's Republic of China.

e) Moslem Royal Tombs :

In accordance with Moslem teachings which require that the representation of all living creatures be excluded from all things, the Royal Tombs of

the Sultans of the States of West Malaysia are plain to the point of being austere, often comprising only a rectangular masonry tombstone with battered sides sitting upon a masonry platform. Examples are many and the earliest date from the fifteenth century.

f) Hindu Temples :

Hindu temples fall into two distinct groups separated by more than five hundred years. The first group dates from the Indianised Period (c.4th century B.C.-15th century A.D.), the second from the British Colonial Period (1786-1957 A.D.). The Bujang Valley, Kedah is the principal site in West Malaysia dating from the Indianised period, and the remains of forty-two monuments have so far been discovered, of which only one, the Candi Bukit Batu Pahat (c.7-8th century A.D.), has been fully restored. Other sites of note are situated at Ladang Neo Bah, Kampong Tikam Batu (c.10-14th century A.D.), and Permatang Pasir (c.12-15th century A.D.), both in Kedah. Of the later period, the Sri Mariammam Temple, Pitt Street, Georgetown, Penang, founded in the late nineteenth century A.D., is one of the most ornate.

g) Buddhist Temples :

In common with the afore-mentioned Hindu Temple building types, Buddhist Temple building types fall into two distinct groups dating from the Indianised and British Colonial periods. Of the earlier period practically nothing has survived other than the remains at Matang Pasir, Kedah. The remains, which date from the c.9-10th century A.D., are believed to be of Sailendra origin. Penang is the centre of the modern Buddhist revival and there are estimated to be more than two hundred temples on the island dating from the late nineteenth century A.D. onwards. The most celebrated is the Ban Hood Pagoda at Ayer Itam (Black Water Village), Penang. An unhappy confection comprising Burmese, Thai and European ingredients built in 1915 A.D., the seven-storey pagoda is more than 30 m. tall and is sited on the summit of a rocky outcrop reached by a lengthy flight of granite steps. The Kek Lok Si Monastery of the Western Paradise of the Pure Land Sect of Buddhism, built in 1891 A.D., stands in the compound of the Ban Hood Pagoda, and is the largest in Malaysia. Other examples may be found at Kuala Lumpur.

h) Colossal Buddhas :

Colossal Buddhas are rare in West Malaysia and are associated with Thai Buddhist temples. There are only two examples of note, both of recent construction, at the Thai Meh Prasit Sumaki Temple, Ipoh, and the Thai Wat Chayamangkalaram, Penang. The latter is a particularly gaudy construction, crudely modelled in cement and decorated with gloss oil paint.

i) Chinese Temples :

The earliest surviving Chinese temple is situated at Malacca, the centre of Chinese influence in the Malay Peninsula since the early fifteenth century. The Cheng Hoong Teng Temple, Temple Street, was founded in 1704 A.D. by Kapitan Li Kup, and is dedicated to Kwan Yin, the Goddess of Mercy. A second, later example dating from 1820 A.D., is the Kwan In Ting Temple, Pitt Street, Penang. It too is dedicated to Kwan Yin. Similar examples may be found at Petaling and Ampong Road, Kuala Lumpur, and at Ipoh.

j) Mosques :

The earliest surviving Mosque in West Malaysia is the Masjid Kampong Laut at Kampong Laut, near Kota Baharu, Kelantan. It was built by the local Moslem community in c.1675 A.D. and is modelled on the Masjid Demak Mosque at Demak, Central Java (the first in the Indonesian archipelago, dating from the early seventeenth century A.D.). It is built of timber and has a triple roof. The main floor is supported above ground level on stilts. The Kapitan Kling Mosque, Pitt Street, Penang, dates from the late seventeenth century A.D., and is of similar design. It is the oldest in Penang and second only to the Masjid Kampong Laut in age in West Malaysia. The Tengkeri Mosque, built in c.1825, is also modelled upon the Demak prototype, and is situated at Malacca. In striking contrast, the Jama Masjid Mosque at Kuala Lumpur, which dates from 1908 A.D., is constructed in the Moorish style so popular in that city.

k) European Churches :

The first European church to be constructed in West Malaysia was the Church of 'Our Lady of the Assumption', built on the instructions of Alfonso d'Albuquerque in 1511 A.D. near to 'A Famosa' (Fort Santiago). In 1557 A.D. Malacca was made a bishopric when, as a result of the great missionary activity of the Catholic Church in the East, Goa was raised by the Pope to an Archbishopric, and the church became the Cathedral of Malacca. No trace of the Cathedral, which was constructed in the form of a Greek Cross, has survived to the present day. The Church of 'Our Lady of the Annunciation', which crowns the summit of St. Paul's Hill, was originally constructed by Duarte Coelho in 1521 A.D. Coelho's little wooden chapel was replaced by the present masonry structure between 1566 and 1590 A.D. After the fall of Malacca, the Dutch changed the name of the church to St. Paul's and continued to use it until 1753 A.D. when the Dutch Church of Christ was completed. St. Paul's was then abandoned and fell into disrepair. Today only the shell of the church remains standing. The Dutch replacement for St. Paul's, The Church of Christ, was built with imported baked bricks from Middleburg (Zeeland) in a provincial Dutch style with a prominent gable and projecting arched vestibule. It remains in a good state of repair and is in active use by the Christian population of Malacca.

The earliest surviving British church is St. George's Church, Farquhar Street, Penang, constructed by Capt. Robert Smith R.E. at the beginning of the nineteenth century when Penang was the centre of British power east of Calcutta. Constructed of baked brick and faced with lime stucco, it is designed in a simple early Renaissance style with a plain pedimented portico supported by eight Tuscan columns coupled in pairs on common pedestals, small octagonal spire, and semi-circular headed blind arcading. The building is limewashed. The galleried interior has a fine marble floor. Other European churches of note in West Malaysia include the twin-spired Roman Catholic Cathedral of the Assumption, also in Farquhar Street, Penang, St. Peter's Church, Wolfeston Road, Malacca, and the ruined Parish Church of St. Lawrence, Jalan Bunga Raja, also in Malacca.

1) Royal Palaces :

In striking contrast to the Moghul extravagances of India, the Royal palaces of West Malaysia are very modest structures comprising a number of single-storey pavilions with tiled, pitched roofs, set within an enclosed compound. The earliest surviving example is situated at Kota Baharu, Kelantan and dates from 1840 A.D. Built by Sultan Muhammad II (1837-1886 A.D.), the Balai Besar (Audience Hall) has a unique three-tiered roof and floor. It is built of timber, is rectangular on plan, and is surrounded by an enclosed verandah. Access is via a projecting open portico. The Balai Besar at Alor Star, Kedah has a unique Balai Nobat (Musician's Platform) large enough to accommodate nine performers. The Istana Lama (Old Palace) of Sri Menanti at Seremban, Negri Sembilan, constructed in 1905 A.D. in the Minangkabau style of Sumatra, features an extraordinary 'buffalo-horn' roof with sweeping eaves and projecting gables. Other examples of palace buildings include the Balai Besar at Kuala Kangsar, Ipoh, and the Istana Besar (Principal Palace) and Bukit Serene Palace at Johor Baharu, Johor.

m) Public Buildings :

Of the public buildings constructed by the Portuguese at Malacca between 1511 and 1641 A.D. (Pauper Hospital, Royal Hospital, St. Paul's School and Town Hall), nothing has survived. The earliest European public building - not only in West Malaysia but also in Monsoon Asia - is the Stadhuys (Town Hall) at Malacca. Constructed between 1641 and 1660 A.D. of imported baked brick from Middleburg (Zeeland), laid in lime mortar and rendered with pulverised laterite, it has three floors, a pitched roof and traditional Dutch gables. The principal chamber, which is situated on the first floor, is reached via two external staircases on the front elevation. Because of the steeply rising ground at the rear of the property, there is direct access from ground level to the chamber on the rear elevation. The property remains in local government use. Other government buildings of interest include the Supreme Court Building, Light Street and the Municipal Offices, the Esplanade at Penang, and the Secretariat Building (Federal House) at Kuala Lumpur. The last mentioned property was constructed in 1895 A.D. in the Moorish style and is similar to the Kuala Lumpur Railway Station and Hotel

dating from 1910 A.D. Across the Padang from the Secretariat Building is the Selangor Club, the second on the site, built in 1895 A.D. in the 'Mock Tudor' style. The former Selangor Museum at Kuala Lumpur was unfortunately destroyed in 1945 A.D. as a result of aerial bombardment.

EAST MALAYSIA (SARAWAK AND SABAH)

1. ARCHAEOLOGICAL

The archaeological heritage of East Malaysia remains to be established. Evidence of Chinese, Sri Vijaya and Majapahit settlement has been unearthed at the mouth of the Sarawak River, and at the Niah Caves evidence of Stone Age Man has been firmly established (c.40,000 B.C.).

2. ARCHITECTURAL

a) Domestic Buildings :

The traditional dwelling of the non-Moslem peoples of East Malaysia (Sarawak) is the 'longhouse', a large open-plan type of building, constructed of hardwood (Belian, known also as Ironwood) and attap. Raised above the ground on stilts, access is via an outside stair (often carved from a single log). Roofs are of the 'buffalo-horn' type, with curving ridges and towering, projecting gables. In urban settlements, such as Kota Kinabalu and Kuching, Chinese 'shop-houses' are common.

b) Public Buildings :

Kuching, the state capital of Sarawak, was fortunately spared the devastation that was the fate of so many towns and cities in Southeast Asia during the Japanese Occupation (1942-45 A.D.) and its Victorian historic core has survived intact. Of particular note, are the Court House (1874 A.D.) and the Sarawak Museum (1888 A.D.).

c) Chinese Temples :

The oldest Chinese Temple in Sarawak is the Tua Pek Kong Temple, Kuching.

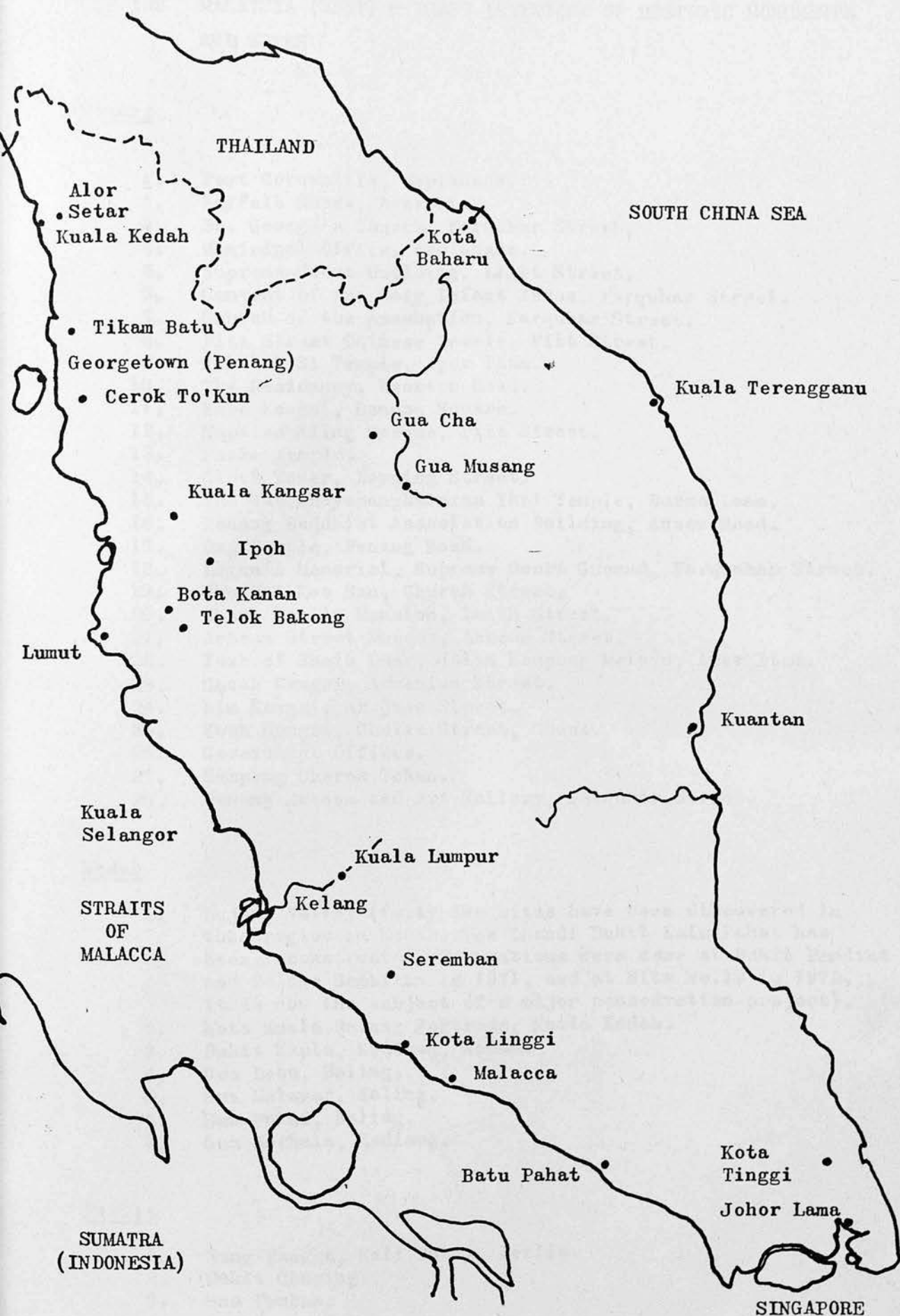


Fig. 137 Malaysia (West) - Principal Historic Sites (1 : 2.5 million)

Penang

1. Fort Cornwallis, Esplanade.
2. Suffolk House, Ayer Itam.
3. St. George's Church, Farquhar Street.
4. Municipal Office, Esplanade.
5. Supreme Court Building, Light Street.
6. Convent of the Holy Infant Jesus, Farquhar Street.
7. Church of the Assumption, Farquhar Street.
8. Pitt Street Chinese Temple, Pitt Street.
9. Kek Lok Si Temple, Ayer Itam.
10. The Residency, Western Road.
11. Khoo Kongsi, Cannon Square.
12. Kapitan Kling Mosque, Pitt Street.
13. Snake Temple.
14. Clock Tower, Downing Street.
15. The Wat Chayamangkalaram Thai Temple, Burma Lane.
16. Penang Buddhist Association Building, Anson Road.
17. Ong Temple, Penang Road.
18. Logan's Memorial, Supreme Court Ground, Farquhar Street.
19. The Hai Kee San, Church Street.
20. Chang Family Mansion, Leith Street.
21. Achean Street Mosque, Achean Street.
22. Tomb of Sheik Omar, Jalan Kampong Melayu, Ayer Itam.
23. Cheah Kongsi, Armenian Street.
24. Lim Kongsi, Ah Quee Street.
25. Yeoh Kongsi, Chulia Street, Ghaut.
26. Government Offices.
27. Kampong Cherok Tokun.
28. Penang Museum and Art Gallery, Farquhar Street.

Kedah

1. Bujang Valley (forty-two sites have been discovered in this region in Kedah. The Chandi Bukit Batu Pahat has been reconstructed. Excavations were done at Bukit Pandiat and Telaga Sembilan in 1971, and at Site No.19 in 1972. It is now the subject of a major conservation project).
2. Kota Kuala Batang Fortress, Kuala Kedah.
3. Bukit Kaplu, Kodiang, Kedah.
4. Gua Debu, Baling.
5. Gua Melawar, Baling.
6. Gua Pulai, Baling.
7. Gua Berhala, Kodiang.

Perlis

1. Wang Tangga, Kali Bukiy, Perlis.
2. Bukit Chuping.
3. Gua Tembus.
4. Gua Berangu.
5. Gua Betong.

Perlis (cont.)

6. Gua Tempah.
7. Bukit Tangku Lembu, Perlis.
8. Bukit Ketri, Perlis.
9. Gua To'Ganggut, Perlis.
10. Gua Kurong Batang, Perlis.

Perak

1. Dutch Fort, Pangkor Island.
2. Gunong Cherok, Kinta, Perak (Hoa-binhian site).
3. Gunong Panjang, Ipoh, Perak (wall-paintings in cave).
4. Sungai Krut Estate, Sungkai, Batang Padang, Perak (slab graves).
5. Tambun Cave Pave Paintings, Tambun, Kinta, Perak.
6. Gunong Rapat, Kinta, Perak (cave).
7. Gua Kajang, Lenggong, Perak.
8. Gua Badak, Lenggong, Perak.
9. Gua Harimau, Lenggong, Perak.
10. Gua Jepal, Lenggong, Perak.
11. Kuala Selingsing, Tanjong Rawa, Larut, Perak.
12. Gua Kerbau.
13. Gunong Batu Kurau, Natu Kurau, Perak (Laut).
14. Gunong Pondok.
15. Padang Rengas, Kuala Kangsar.
16. Gua Ba'it Sungai Siput, Kuala Kangsar.
17. Istana Iskanda, Kuala Kangsar (Sultan's Palace).
18. Timber Palace near Istana Iskanda, Kuala Kangsar.
19. Sultan's Mosque, Kuala Kangsar.
20. King Edward School, Taiping.
21. Taiping Museum.

Selangor

1. Secretariat Building.
2. Selangor Club Building.
3. 'Carcosa'.
4. Victoria Institution (presently in use as Technical College).
5. St. John's Institution.
6. Convent of the Holy Infant Jesus, Kuala Lumpur.
7. Church of the Holy Rosary, Brickfields.
8. P.W.D. Building, Jalan Sultan Hishamuddin.
9. Raja Mahdi's Fortress, Klang.
10. Fort Altingsburg, Kota Malawati.
11. Fort Utrecht, Kuala Selangor.
12. Fort Lukut, Port Dickson, Negeri Sembilan.
13. High Street Chinese Temple.
14. Loke Yew Mansion.
15. Tem (sic) of Yap Ah Shak.
16. Bukit Batu Belah, Klang.
17. Bukit Kuda, Bukit Raja, Klang.
18. Bukit Jati, Klang.
19. Tem (sic) of Loke Yew, Bukit Loke Yew, Jalan Gurney.

Negeri Sembilan

1. Megaliths near Pengkalan Kempas, Negeri Sembilan.
2. Kota Simpang (on Linggi River), Negeri Sembilan.
3. Yang di-Pertuan Besar's Palace, Sri Menanti.
4. Kota Lukut, Port Dickson, Negeri Sembilan.

Kelantan

1. Gua Cha, Ulu Kelantan.
2. Gua Musang, Ulu Kelantan.
3. Gua Tampan, Ulu Kelantan.
4. Gua Chawan, Ulu Kelantan.
5. Gua Batu Ner, Ulu Kelantan.
6. Gua Madu, Ulu Kelantan.
7. Gua Jaya, Ulu Kelantan.
8. Gua Serai.
9. Sungai Bering.
10. Bukit Jong.
11. Telok Labok Pui.
12. Kuala Reman.
13. Kuala Tembeling.

Pahang

1. Nyong, Tembeling, Jerantut.
2. Gunung Senyum.
3. Gua To'Long, Temerloh.
4. Bukit Chinamani, Bentong.
5. Tin Gold Mine, Lipis.
6. Kota Tongkat, Jerantut.
7. Bukit Cheras, Kuantan.
8. Gua Bukit Kechil, Raub.
9. Bukit Serdam, Raub.
10. Pontian, Pekan, Pahang.
11. Bukit Serai, Jerantut.
12. Labu Tembiling, Jerantut.
13. Kampong Melayu Pengan, Jerantut.
14. Kampong Atas (Atok), Jerantut.
15. Kampong Kuang Jong Belaboh, Jerantut.
16. Ulu Tembiling, Jerantut.
17. Jeram Kurin, Jerantut.
18. Kampong Padang, Jerantut.
19. Kampong Pagi, Jerantut.
20. Pasir Merting, Jerantut.
21. Pasir Aur, Jerantut.
22. Sungai Telour, Jerantut.
23. Telok Laboh Pui, Jerantut.
24. Tembang Siam Pekan.
25. Pengkalan Durian Pekan.
26. Padang Siam Pekan.

Johore

1. Kota Batu, Johor (Johor Lama Fortress).
2. Mekan Sultan, Kota Tinggi, Johore.
3. Istana di Johore Baharu.
4. Abu Bakar Mosque, Johore Baharu.
5. Pulau Ubin (off Johore).

Trengganu

1. Kuala Trengganu Inscription.

Malacca

1. St. John's Fort, St. John's Hill.
2. Trengkera Mosque, Malacca Tengah.
3. St. Peter's Church, Wolferstan Road.
4. Christ Church, Malacca Tengah.
5. The Studhuys, St. Paul's Hill, Fort Road.
6. Porta de Santiago (Albuquerque's Gate), Fort Road.
7. St. Paul's Church, St. Paul's Hill.
8. City Cross, Malacca Town.
9. Portuguese Church, Tampoi.
10. Ruins of the Parish Church of St. Lawrence, Jalan Bunga Raya.
11. Grave of Sultan Hussain Shah, Malacca Tengah.
12. Cheng Hoon Tong Temple.
13. Perigi Raja.
14. Church of St. Francis Xavier.
15. Malacca Museum.
16. Stone Alignments, Alor Gajah.
17. Makam Hang Kasturi, Jalan Gelangong.
18. Makam Hang Jebat, Jalan Kg. Kuli.
19. Hang Tuah's Well, Kampong Duyong.

FIG 139 MALAYSIA (WEST) - DISTRIBUTION OF HISTORIC MONUMENTS AND SITES BY STATE

<u>State</u>	<u>Number</u>
Penang	23
Kedah	7
Perlis	10
Perak	21
Selangor	19
Negeri Sembilan	4
Kelantan	13
Pahang	26
Johore	5
Trengganu	1
Malacca	19
TOTAL	153

1. SEAMEO, 'Proceedings of the Preparatory Conference on the Restoration and Animation of Historical Sites', Phnom Penh, 4-8 December 1972, pp.390-395.



Fig. 140 Malaysia (West) - Kuala Lumpur, 1882. Attap houses fronting onto the Padang. Now the site of the Secretariat Building (erected in 1895).



Fig. 141 Malaysia (West) - Kuala Lumpur. Shop-houses fronting onto Old Market Square (since demolished).



Fig.142 Malaysia (West) - Kuala Lumpur. View of the second Selangor Club, built in 1899, from the Secretariat Building. The first Selangor Club was destroyed by fire.—



Fig.143 Malaysia (West) - Kuala Lumpur. View of the Secretariat Building, built in 1895, across the Padang with the second Selangor Club in the foreground.

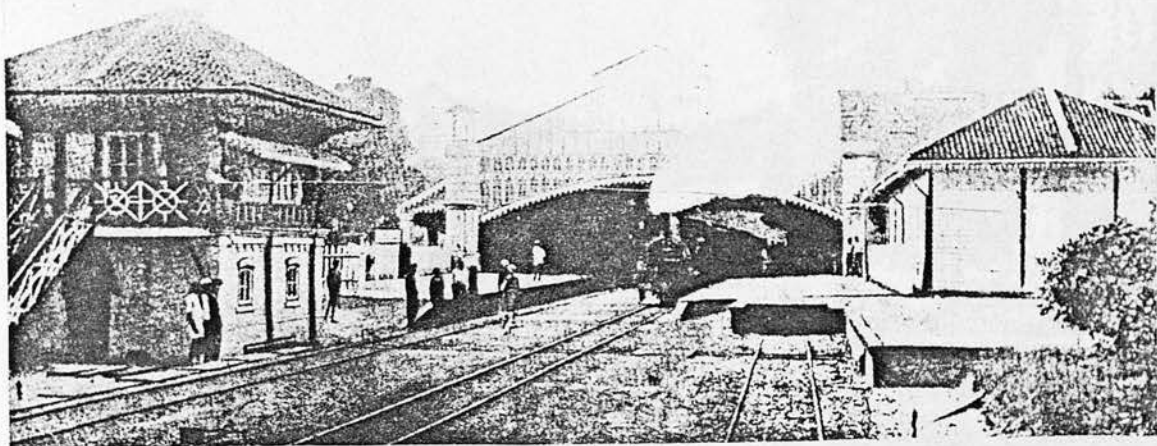


Fig.144 Malaysia (West) - Kuala Lumpur. Main line station in 1910 (immediately after completion).

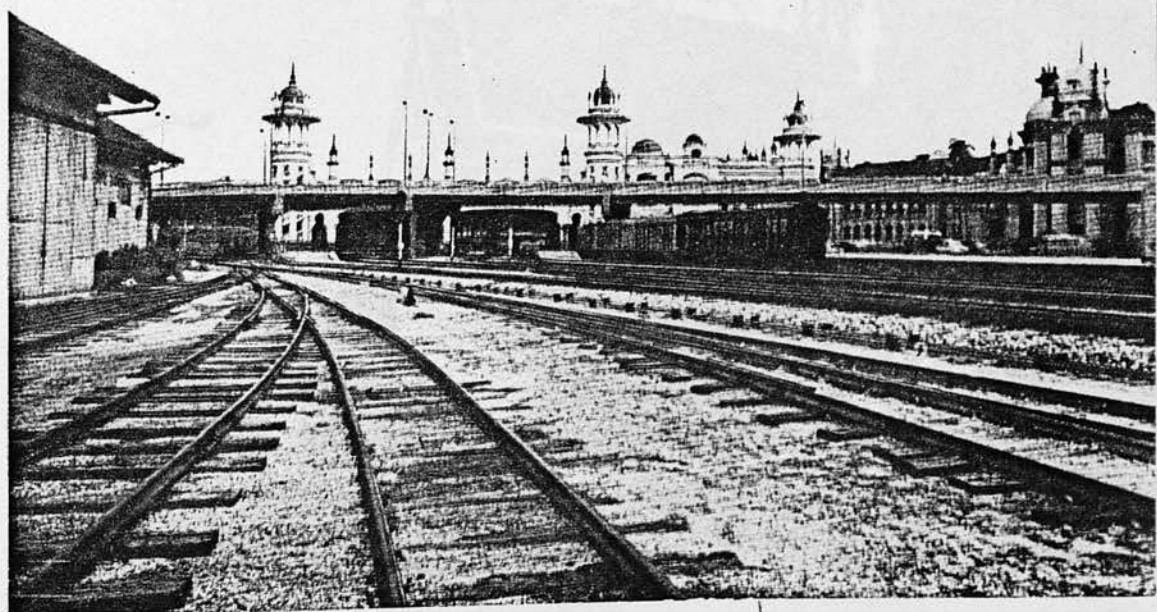


Fig.145 Malaysia (West) - Kuala Lumpur. Main line station after extension and renovation in 1974.

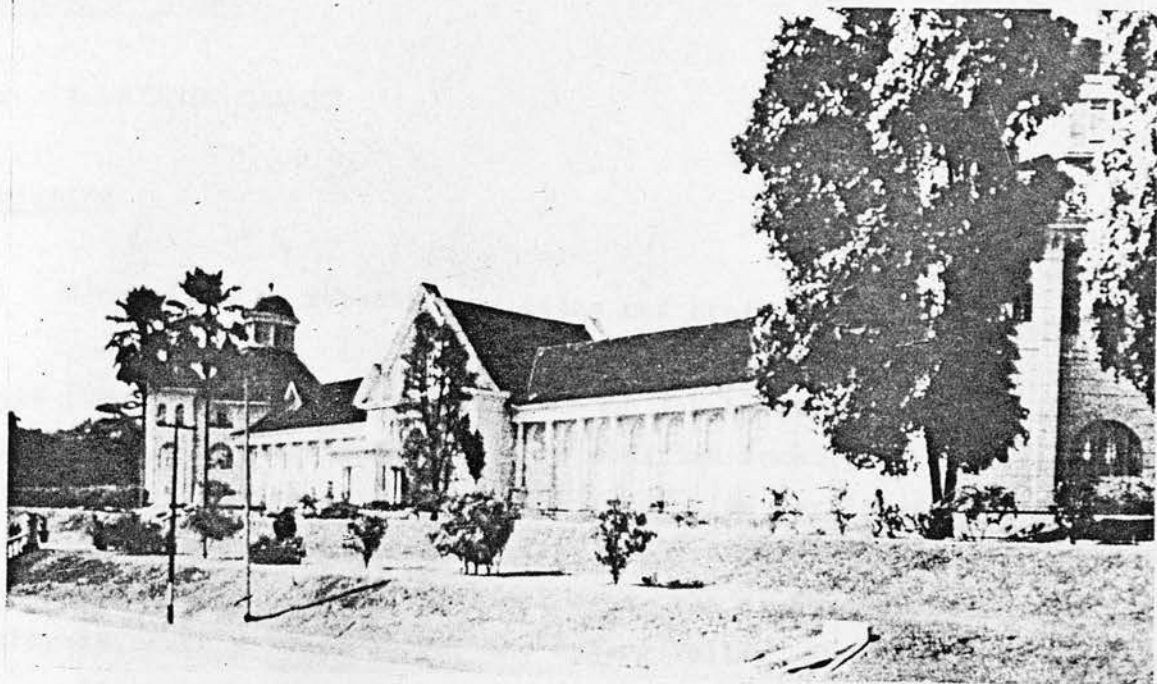


Fig.146 Malaysia (West) - Kuala Lumpur. Former Selangor Museum, destroyed in 1945 by aerial bombardment.



Fig.147 Malaysia (West) - Kuala Lumpur. National Museum (Muzium Negara), built on the site of the former Selangor Museum in 1963.

4. CAUSES OF DECAY

1. INTRINSIC CAUSES

Location

a) Microclimate, Subsoil Conditions and Drainage

West (Peninsular) and East (Sarawak and Sabah) Malaysia have an equatorial/maritime type of climate modified locally by relief and surrounding landmasses, such as the Indonesian territories of Sumatra and Kalimantan, which afford shelter from rain-bearing winds. Monuments and sites located at lowland sites along the western coastline of West Malaysia, such as Georgetown, the Bujang Valley, Kuala Lumpur and Malacca, are subject to high uniform temperatures and relative humidity all the year round. There is no dry season, but seasonal precipitation varies due to the effects of the Northeast (October-March) and Southwest (June-September) Monsoons. Convectional thunderstorms are common during the Doldrums (April-May and October-November). Similarly, monuments and sites located at lowland sites along the north-western coastline of East Malaysia, such as Kuching, Sibuan and Kota Kinabalu, are subject to high, but varying temperatures, and relative humidity. Because of the prevailing environmental conditions, laterisation is widespread in West and, to a lesser extent, East Malaysia. Where the subsoil is saturated subsidence and slippage is not uncommon.

Materials

a) Timber, Bamboo and Thatch

Timber, bamboo and thatch have traditionally been the most widely used building materials, but because of their organic nature they are particularly susceptible to rot, insect attack and fire damage. Consequently, few timber monuments have survived from before the nineteenth century. Chengal, Balau, Merbau, Meranti and Kapau are the principal hardwoods used for structural purposes (beams, columns and rafters, etc.). Softwood shingles are commonly used to roof early mosques.

b) Stone

The principal building stones of Malaysia are limestone and laterite.

Materials (cont.)

Granite and Coral are used to a lesser extent. Limestone is subject to decay as a result of a) the crystallisation of salts drawn from the subsoil by capillary action; and b) the establishment of moss and lichen. Laterite, granite and coral weather well.

c) Mud and Unbaked Brick

Unbaked brick laid in mud and occasionally reinforced with bamboo was once widely used in the construction of fortifications, but few examples have survived to the present day.

d) Baked brick and Terracotta

Baked brick has been widely used in the construction of fortifications, temples, mosques, European churches, palaces and public buildings. At Malacca, imported salmon-pink bricks from Middleburg (Zeeland) were used by the Dutch for the construction of public buildings and churches.

e) Binding Materials

Lime mortar, occasionally enriched with honey or molasses, and pulverised laterite are widely used in the construction of baked brick and stone structures. Normally the process of decay is a gradual one, but where honey or molasses have been added to the lime, the process is accelerated as a result of insect attack.

f) Metal

Cast bronze images and gilding are widely used to ornament non-Moslem religious structures. In common with many other former British outposts of Empire, West Malaysia possesses a number of cast-iron structures (bandstands, drinking fountains, etc.) and ornamental cast-ironwork. Galvanised corrugated iron sheeting has replaced thatch (attap) and roof tiles on many monuments. Iron and steel wire is also used to form armatures for cement and concrete sculpture, balustrades and finials, etc.

g) Stucco and Other Finishes

Lime stucco and pulverised laterite have been used to protect and ornament structures of baked brick, laterite, limestone and coral.

Materials (cont.)

Fungi, mold, moss and lichen cause discolouration of lime stucco and, where capillary action has caused the crystallisation of soluble salts to take place in the baked brick or stone support, cracking and separation have taken place.

h) Ornamentation

Since the beginning of the fifteenth century A.D. West Malaysia has been a Moslem country and there is no surviving Malay tradition of representational art. Stone and more especially wood carving is used to ornament palaces, audience halls and other structures. Doors, window and door frames are the subject of particularly elaborate carving. Chinese and Hindu temples and shrines are not, of course, subject to the same doctrinal restrictions, and lacquer, gilding, stone and wood carving, and glazed polychrome and terracotta ware, are widespread. The majority of lime stucco structures are either lime or colour washed, and oil-based paints enliven many Hindu images. Copper and bronze images and temple fittings are subject to bronze disease.

i) Wall Paintings

Apart from the prehistoric wall paintings of West Malaysia, there is no surviving tradition of wall painting in the Federation of Malaysia.

Construction

a) Substructure

Foundations of all but the largest structures are traditionally shallow. Damp-proof courses are rare and rising dampness is common.

b) Superstructure

The earliest surviving structures in West Malaysia, the Hindu temples of the Bujang Valley in Kedah, were constructed by Indian masons using the monolithic system of construction. Openings are spanned using either corbelling or lintels. The true arch was not used until the sixteenth century, when it was introduced by the Portuguese at Malacca. Timber structures are constructed using either the platform frame or post and lintel system of construction. More recent structures have steel or

Construction (cont.)

reinforced concrete frames.

2. EXTRINSIC CAUSES

Actions of Man

a) Lack of Maintenance

Despite the comparatively limited number of monuments and sites surviving in West and East Malaysia, lack of maintenance is a cause for concern, particularly at upland and jungle sites. The situation is aggravated by the limited resources available to the National Museum at Kuala Lumpur. Many private owners appear to be indifferent to the condition of the cultural property for which they are responsible.

b) Abandonment and Squatting

Apart from the long abandoned monuments and sites of the Bujang Valley in Kedah, abandonment is not a problem of major proportions in West or East Malaysia. Squatting is negligible outside of the Federal capital, Kuala Lumpur.

c) Robbery and Vandalism

Robbery is a serious problem in East Malaysia, where traditional ways of life have been seriously eroded since the Second World War by missionaries and trading contacts with Europe and the United States of America. Burial poles, rock carvings and megaliths, as well as ceramics, brassware and other movable cultural property, are all endangered by treasure hunters and collectors. The situation is aggravated in Sabah by a total lack of conservation legislation to control the traffic in antiquities. The situation in West Malaysia is less pressing and is not a major cause for concern.

d) Alteration and Demolition

Alteration and demolition are major problems. Structures in regular use, particularly temples, shrines and mosques, are frequently altered during the process refurbishment. Demolition is discussed in the context of development in sub-section (i) Urbanisation and Encroachment.

e) Faulty Restoration and Repair

Because of the strictly limited legal powers of the National Museum and its limited staff resources, there is inadequate supervision over the restoration and repair of monuments and sites. Consequently, proper standards are not enforced and the integrity of the monument is diminished as a result of clumsy interventions.

f) Unauthorised Excavations

Unauthorised excavations are not a problem in West and East Malaysia.

g) Customary Use

The burning of joss and incense results in the deposit of a surface film of carbon on the ceilings and walls of Chinese temples and shrines, and clan halls. Although not injurious it does cause discolouration. To a great extent, the problems caused by the burning of oil lamps have disappeared as a result of the introduction of electric lighting.

h) Change of Use

Unsympathetic changes of use and intensification of existing uses necessitating alterations to the fabric of structures are major problems in the Federal capital of Kuala Lumpur. Similarly, changes of land use, as opposed to changes of building use, may cause whole areas to become economically obsolete resulting in clearance and redevelopment. This problem is discussed in more detail in sub-section (i) Urbanisation and Encroachment.

i) Urbanisation and Encroachment

Up until the late 1960s/early 1970s, development was traditionally in the hands of the Chinese community, and between 1957 and 1967 land values in Kuala Lumpur increased from 100 to 500 per cent or more.¹ Later, following the intervention of overseas developers and increased foreign

1. Woodruff, A.M. 'A Study of Urban Alternatives : The Great Cities of East and Southeast Asia', in Wong, J. 'The Cities of Asia : A Study of Urban Solutions and Urban Finance', University of Singapore Press, Singapore, 1976, p.37.

investment, land values soared as developers competed to acquire plots for speculative office development. In 1971 the Urban Redevelopment Authority (URA) was established and immediately intervened to stabilise the situation by the introduction of fiscal controls aimed at regulating development in line with the Second Malaysia Plan 1971-75. Nonetheless, since 1971 surplus office space has risen to more than two hundred thousand square metres, and this has been achieved at the expense of the vernacular shop-houses and other buildings that once gave the city its character. The scale of modern development is also wholly unrelated to that of the majority of the city's buildings, which are predominantly two and three storeys, upon which they often encroach, destroying their setting. To a lesser extent, the problem is also evident in the other seven metropolitan towns of West Malaysia : Johore Bahru, Malacca, Kelang, Petaling Jaya, Serampan, Ipoh and Georgetown.

j) Fire Damage

Fire is a major cause of decay of timber structures and compliance with fire regulations often represents a considerable problem with implications for the architectural and historical character of the structure concerned.

k) Pollution

Pollution is negligible in West and East Malaysia.

l) War Damage

War damage was negligible during the Second World War and ensuing 'emergency' (1948-60). Sporadic guerilla activity continues along the border with Thailand but has negligible effect upon the continuing preservation and protection of monuments and sites.

Occasional Actions of Nature

a) Earthquakes and Landslides

West Malaysia is situated within the so-called 'transasiatic seismic zone', but recent seismic activity has been negligible. Seismic activity in East Malaysia is also negligible.

Occasional Actions (cont.)

b) Volcanic activity

Volcanic Activity in West and East Malaysia is negligible. Both wings of Malaysia are situated close to the so-call 'Ring of Fire' that sweeps in a broad arc through the Indonesian and Philippines archipelagos, however, and tremors are occasionally felt as a result of volcanic activity elsewhere in the region.

c) Flooding

In West Malaysia, the Johore Lowlands south of the Pahang River are uniformly flat and poorly-drained, and monuments and sites located at exposed sites are liable to flooding, particularly during violent convectional thunderstorms and south-westerly squalls, known locally as 'Sumatras', during which 25 mm of rain may fall in an hour. Rivers are generally short and fast-flowing and often change their courses causing flooding and erosion of adjacent monuments and sites. In East Malaysia, exposed monuments and sites along the broad, poorly-drained coastal plain between the Lupar and Tatau rivers may also be subject to flooding. Rivers are mature and slow-flowing and erosion is negligible.

d) Tsunamis

As previously noted in sub-section (b), both wings of Malaysia are situated close to the so called 'Ring of Fire' and their exposed eastern and north-western coastlines are vulnerable to tsunamis. There has, however, been no recorded instance of a Tsunami in recent history.

e) Typhoons and Cyclones

Because of their equatorial position, West and East Malaysia lie outwith the typhoon and cyclone belts.

Prolonged Actions of Nature

a) Precipitation, Relative Humidity, Temperature and Wind

Precipitation, relative humidity and temperature, are the three principal physical causes of decay, as previously noted under Section I : Intrinsic Causes of Decay (rising dampness, wet rot and corrosion, etc.), but over

prolonged periods other changes, of a chemical, micro-biological and biological nature, also occur. The effects of these are noted in the following sub-sections (b) to (g). Physical erosion by windborne particulates does not present a problem in either West or East Malaysia, wind damage being related to occasional actions of nature, such as 'Sumatras'.

b) Fungi and Mold

Fungi and mold are widespread at monuments and sites located along the lowland coastal plains of West and East Malaysia, where high temperatures and relative humidity prevail all the year round. The problem is aggravated by lack of maintenance.

c) Moss and Lichen

Moss and lichen are also widespread at monuments and sites located along the lowland coastal plains of West and East Malaysia.

d) Plants and Trees

Plants and trees flourish in the hot and wet conditions prevailing in West and East Malaysia, and a number of abandoned monuments and sites, such as the Bujang Valley, Kota Pangkor and the ruined St. Lawrence's Church at Malacca, have become overgrown with vegetation. The problem is aggravated by lack of maintenance of buildings in regular use.

e) Insects

Insect infestation is the principal cause of decay of timber and timber-related materials. Drywood termites (Kalotermitidae) and other free-flying pests, such as powder-post beetles (Lyctidae and Bostrychidae), make their homes in the attacked timber (usually in the sap wood of most hardwoods). Soil or subterranean termites (Hodotermitidae, Rhinotermitidae and Termitidae) are more numerous and widespread, but need to maintain contact with the ground. They too attack the sap wood of most hardwoods. Both problems are widespread in West and East Malaysia because of their uniformly high levels of relative humidity.

f) Birds and Bats

Nesting birds and bats cause physical damage by burrowing. They also cause chemical damage by their excrement, which causes the corrosion of copper and bronze and disfigures wall paintings. Perching birds also disfigure monuments by their excrement. The problem is particularly acute at upland, painted-cave sites in Perak, West Malaysia, where the situation is aggravated by exposure to direct sunlight and heavy rain.¹

g) Animals

Domestic animals (pigs and goats) cause both physical and chemical damage to abandoned monuments and sites by foraging and their excrement.

1. Agrawal, O.P. 'Conservation of Cultural Property : Malaysia', Report of ICOM Mission, 23-27 January 1970, ICOM Regional Agency in Asia, New Delhi, 1970, pp.1-5.

FIG. 148 MALAYSIA - CAUSES OF DECAY

INTRINSIC CAUSES	LOCATION	Microclimate	●
		Subsoil Conditions	●
		Drainage	
	MATERIALS	Timber and Bamboo	●
		Stone	●
		Mud and Unbaked Brick	
		Baked Brick and Terracotta	●
		Binding Materials	
		Metal	
		Stucco and Other Finishes	●
		Ornamentation and Wall Painting	●
	CONSTRUCTION	Substructure	
		Superstructure	
EXTRINSIC CAUSES	ACTIONS OF MAN	Lack of Maintenance	●
		Abandonment and Encroachment	
		Robbery and Vandalism	●
		Alteration and Demolition	●
		Faulty Restoration and Repair	●
		Unauthorised Excavations	
		Customary Use	
		Change of Use	●
		Urbanisation and Encroachment	●
		Fire Damage	
		Pollution	●
		War	
	OCCASIONAL ACTIONS OF NATURE	Earthquakes and Landslides	●
		Volcanic Activity	
		Flooding	●
		Tsunamis	
		Typhoons and Cyclones	●
	PROLONGED ACTIONS OF NATURE	Precipitation	●
		Relative Humidity	●
		Temperature	●
		Wind	
		Fungi and Mold	
		Moss and Lichen	●
		Plants and Trees	●
		Insects	●
		Birds and Bats	●
		Animals	●

1. HISTORICAL EVOLUTION OF GUIDING PRINCIPLES

In comparison with its neighbours, Thailand and Indonesia, the Malay Peninsula has few ancient monuments that date from before the fifteenth century. Accordingly, scholars have tended to concentrate on prehistoric studies and the establishment of the much disputed history of the Sri Vijayan Dynasty (670-1350).

A former Assistant Resident of Penang, Lieutenant Colonel James Low, is generally credited with the distinction of undertaking the first organised archaeological explorations of the Malay Peninsula.¹ An enthusiastic amateur antiquarian, Low excavated several sites during the 1830s and 1840s, in the course of which he discovered a rock inscription on a high boulder at Cherok Tokun, near Bukit Mertajam, Penang. Of the original inscription, practically nothing has survived, but Low's visit is permanently recorded by the celebrated inscription, 'J.L. Low 1845'.

Fifteen years later, another amateur antiquarian, the Resident Councillor of Penang, G.W. Earl, undertook the excavation of a shell-mound near the River Muda. His conclusions, that the mound was '...a sepulchral mound or barrow of the Simang, a negro race formerly occupants of the country...', remain unverified, contemporary scholars attributing his conclusions to zeal rather than scientific method.²

In 1894, F.W. Irby of the Perak Trigonometrical Survey uncovered structural remains on the summit of Kedah Peak.³ His purpose in scaling the Peak was to establish a survey beacon and so, after conducting a brief survey of the remains, he ordered their destruction - an act of vandalism which in retrospect appears to have been quite unnecessary. An attempt was made to preserve the surviving remains by crudely pouring cement over the site in 1921, but even this attempt to preserve what today is believed to have been the remains of an extensive complex of temples was in vain, for a telecommunications centre has since been

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1. Al Rashid Bin Mohd, Ibrahim. 'Conservation in Malaysia', Paper presented to the Asia Pacific Conference on Conservation of Cultural Property, New Delhi, 7-12 February 1972, pp.1-5.
 2. Earl, G.W. 'On the shell-mounds of Province Wellesley, in the Malay Peninsula', in the Transactions of the Ethnological Society, New Series II., 1860.
 3. Today known as Gunung Jerai.

constructed on the site.

The Curator of Museums for the Malay Peninsula, I.H.N. Evans, who was responsible for the attempt to preserve the Kedah Peak remains, was more successful in his efforts elsewhere, however, and the megalithic remains at Pengkalan Kampas in Negeri Sembilan have only survived because of his timely intervention. Unfortunately, many less able archaeologists destroyed more than they salvaged from their excavations, and in general the conservation of cultural property presented a dismal picture up to 1942, when the Second World War was extended from Europe to Asia.

Building on the nineteenth century tradition of amateur antiquarianism, many scholars researched into the prehistory of the Malay Peninsula from the beginning of the twentieth century onwards, P.V. van Stein-Callenfels, H.D. Collings, I.H.N. Evans, R.von Heine-Geldern and M.W.F. Tweedie being some of the most eminent. And much light was shed upon the history of the Kingdom of Sri Vijaya by such scholars as G. Coedes, N.J. Krom and H.G.O. Wales.

From 1942 until the granting of independence in 1957, and the re-establishment of the National Museum destroyed during the Second World War, little conservation work was undertaken in the Malay Peninsula because of the national emergency situation. Excavations were also few in number, and G. de G. Sieveking's excavation of the Gua Cha site in Kelantan in 1954, an excavation that represents a milestone in the application of systematic technique in the Malay Peninsula, was a rare undertaking.

Since 1957, the situation has continued to improve under the patronage of the National Museum in Kuala Lumpur. The introduction of the Antiquities and Treasure Trove Ordinance, 1957, which extended government protection to all antiquities dating from before 1 January 1850, considerably assisted the Museum in its task of conserving the nation's cultural heritage. Its first project, undertaken with the cooperation of the University of Malaya, was the excavation of the Candi Bukit Batu Pahat in the Bujang Valley. Restoration was completed with the assistance of the French restorer, Louis Contant. Recent research has been

concentrated upon the Hoa-binhian sites at Gua Kochil, Kota Tongkat, and Gua Orang Bertapa in Pahang, and Gua Tampaq in Kelantan.¹

In common with the Malay Peninsula, Northern Kalimantan, formerly British North Borneo, is conspicuously lacking in ancient monuments, and research has similarly been concentrated upon prehistory. Major excavations were undertaken at the Nyah Caves in Sarawak which led to the discovery of an important settlement and implements ranging from the palaeolithic to the iron age. More recently, evidence has been discovered of Indian penetration along the river margins of Northern Kalimantan from the fifth century onwards. Little conservation work has been undertaken, however, efforts mainly being directed towards the salvaging of megaliths, and stone and wood carvings.

2. POLICY AND PROGRAMMES

National Conservation Policy

The 1954 UNESCO Convention and Protocol for the Protection of Cultural Property in the Event of Armed Conflict (the Hague Convention) were both ratified by the Federation of Malaysia on 12 December 1960.² However, neither the 1970 UNESCO Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property, nor the 1972 UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage, has been ratified to date.³

The Federal Government gave high priority to the conservation of the Federation of Malaysia's cultural heritage and the development of cultural tourism in the Second Malaysia Plan (1971-75). The National Archaeological Survey and Research Unit (NASRU), founded by the Museums Department, the national conservation agency, in 1971, is the principal agency responsible for implementing the policies outlined in the Plan.

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1. Hoa-binh is the type-site of a mesolithic culture discovered in Tonkin, Vietnam. Finds include oval, unifacial pebble tools but not bone tools. Nor is pottery found. Hoa-binhian material has also been found at sites in Indonesia, Kampuchea, Laos, and Thailand.
 2. UNESCO, 'Conventions and recommendations adopted under the auspices of Unesco', Serial No.CL/2290, Annex II, UNESCO, Paris, 1973, pp.19-23.
 3. 31 August 1978.

There are three major conservation projects programmed under the Second Malaysia Plan (1971-75) :

1. The Bujang Valley Project;
2. The Malacca : Town of History Project; and
3. The Penang : Pearl of the Orient Project.

The Bujang Valley Project

The Bujang Valley is bounded by Gunong Jerai to the north, Sungei Muda to the south, the Malacca Strait to the west, and the North-South Highway to the east. The valley is approximately 370 sq km in area. Work undertaken by the Museums Department in 1969-70, identified forty-two separate ruins of ancient buildings, temples and other monuments, and evidence of settlements dating from the so-called 'Indianised' or 'Hindu-Buddhist' period of Southeast Asian history.

The first five year programme, completed in 1976, was designed to provide for the archaeological excavation, reconstruction and maintenance of a group of important monuments dating from the sixth to the fourteenth century A.D. in the Sungei Merbok and Sungei Muda regions of southern Kedah. Scholars are agreed that this region is one of the earliest centres of civilised settlement and development in the Malay Peninsula. The existence of ancient remains in the area became known during the nineteenth century through the pioneering work of Lieutenant Colonel James Low, the Assistant Resident of Penang. Subsequently, excavations were undertaken by I.H.N. Evans during the 1920's and H.G. Quaritch-Wales shortly before the outbreak of the Second World War in Asia. In all, a total of thirty-one ancient structures were exposed and examined during this brief period of exploration. However, since then little exploration has taken place - the restoration of Candi Bukit Batu Pahat at Sunget Merbok Kechil by the Museums Department with the assistance of A.H. Lamb and Louis Contant of Conservation d'Angkor¹ in 1959-60 being one of the few projects successfully completed. The present project has created a national historic monument park of international importance.²

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1. Closed down by the Khmer Government in 1972.
 2. Al Rashid bin Mohd, Ibrahim. 'National Historic Park : Bujang Valley Project', Museums Department, Kuala Lumpur, 1972.

Malacca : Town of History of Project

The City of Malacca is situated on the eastern bank of the Malacca Strait. On the landward side it is bounded by the states of Negri Sembilan and Johore. The discovery of megalithic stone alignments in the Alor Gajah district indicates that the site of Malacca has been settled since prehistoric times, but it is the period from 1402 onwards and the foundation of the Kingdom of Malacca by Parameswara that is of particular interest and which is the principal concern of the Malacca : Town of History Project.

The Project, which began in 1971, is under the direction of the Director of the National Museum, Kuala Lumpur. It is divided into five phases :

- 1) Selection and study of historical monuments, buildings and sites, including places of legendary interest;
- 2) Scheduling of selected items under provisions of the Antiquities and Treasure Trove Ordinance, No.14 of 1957;
- 3) Restoration and conservation of selected items;
- 4) Development of 'inner' and 'outer' cultural zones; and
- 5) Protection and maintenance.

The programme also includes the establishment of several 'period' site museums or folk museums, and a general historical museum.

With reference to the 'inner' and 'outer' cultural zones of Malacca, the proposals are as follows :

Inner Cultural Zone (Historic Core)

- 'a) The whole of this area should be scheduled as National Cultural Property under article 17(1) of the Antiquities and Treasure Trove Ordinance, No.14 of 1957.
- 'b) The whole of this area should be a pedestrian zone. This is the centre of old Malacca where most of the important historic buildings are concentrated. This will eventually become the tourist and recreational centre. The area could be landscaped and developed into a garden city providing for cultural and recreational activities. Under those conditions the area should be devoid of traffic to create the atmosphere of peace and tranquility.
 - i) To provide a theatre where live traditional performances could be held.

- ii) Examples of traditional Malay houses could be acquired and re-erected in this zone. These could be converted to period Museums of the 14th-15th century.
- iii) The finest examples of the traditional Baba homes now existing in the area could be converted to period Chinese House Museums of the 18th-19th century.
- iv) a. Reconstruction of the Church of St. Paul's Hill. An inspection recently carried out make (sic) it urgent that conservation work on this building should be carried out as soon as possible. In order to preserve its historical significance it could be converted into a site Museum of Portuguese-Dutch period. This can also be regarded as the centre of the Inner Cultural Zone. The hill must be properly landscaped.
b. Reconstruction of St. Lawrence Ruins could be carried out to create a church museum of the Portuguese-Dutch Period.
- v) Restoration of Statdhuys and its conversion to 'general purpose' historical museum of Malacca including landscaping.
- vi) Conservation of Fort Santiago (Fort Albuquerque).
- vii) Conservation of Christ Church and the Clock Tower. The landscaping of the whole area. '

Cultural Tourism : Sound and Light Programme

This sound and light programme will be a novel innovation and the first of its kind in South East Asia. As the most historic monuments are centred in this small area, this programme could be easily developed and would prove to be of tremendous educative and recreational appeal. The programme would consist of music, narrative of history and lighting of monuments. St. Pauls Hill after its reconstruction could be the centre of this programme.'

Outer Cultural Zone (Remainder of City and State of Malacca).

- i) Tampoi Ruins.
- ii) Alor Gajah Stone Allignments (sic)
 - a) Mukim Melaka Pindah,
 - b) Mukim Taboh Nanning,
 - c) Mukim Melekek,
 - d) Tebong Estate.
- iii) St. Peter's Church.
- iv) Ruins of Bukit China.
- v) Cheng Hoon Teng Temple.
- vi) Mosque ruins along Trangquerah Road.
- vii) Malim Church.
- viii) Perigi Raja.
- ix) St. John's Hill ruin (Fort).

Malacca : Town of History Project (cont.)

More detailed surveys will be carried out in this zone. It is recommended that all the monuments and sites should be scheduled as National Cultural Property. At present only Perigi Raja is scheduled.

In the case of St. John's Hill, Tampoi Ruins and Alor Gajah Stone alignments, archaeological excavations and reconstruction will be carried out.

Conclusion

These proposals and recommendations will, we believe, restore Malacca to its proper historical perspective. The conservation, preservation, restoration and reconstruction measures will not only enhance an awareness of the rich historical traditions, but also create considerable resources for cultural tourism.¹

Penang : Pearl of the Orient Project

Penang Island is situated at the northern entrance to the Malacca Strait and separated from the mainland by a channel approximately three kilometres wide. The island is approximately two hundred and eighty five square kilometres in area and rises to a height of eight hundred and thirty nine metres.

Unlike Malacca, the history of Penang only begins with the coming of the British as, prior to the founding of the settlement by Captain Francis Light in 1786, the island was unknown and uninhabited except for a number of small kampongs. From recent discoveries on the mainland, such as the Cherok Tokun Stone and other inscriptions in Province Wellesley, for which H.G. Quaritch-Wales has suggested the dates c.300 to 400 A.D., and the discovery of other sites and temples around the Merbok River in Kedah, there is reason to believe that the area was the setting of an early Hindu settlement.

The project, which is under the direction of the Director of the National Museum, Kuala Lumpur, is divided into four stages :

- 1) Selection and study of historical monuments, buildings and sites;

1. Al Rashid bin Mohd, Ibrahim. 'Malacca : Town of History', Museums Department, Kuala Lumpur, 1972.

- 2) Scheduling of selected items under the provisions of the Antiquities and Treasure Trove Ordinance, No.14 of 1957;
- 3) Restoration and conservation of selected items; and
- 4) Protection and maintenance.

The purpose of the project is to survey all the buildings, monuments and sites in the State of Penang and Province Wellesley, and to prepare detailed and accurate plans of their structure, as well as to collect historical data. Subsequently, restoration and preservation is envisaged, including the proper landscaping of individual sites and groups of monuments. The programme also includes the establishment of several 'period' museums or folk museums and one general museum of history. The finest examples of Chinese mansions, such as the Chang Family Mansion in Leith Street and the Hai Kee San in Church Street, are considered most suitable for conversion to period museums. Suffolk House, the former residence of the Governor of Penang, is considered most suitable for conversion to a general museum. Among the numerous monuments to be restored and conserved are Fort Cornwallis¹, the Tomb of Sheikh Omar at Ayer Itam and the clock tower in Downing Street. The Chinese Kongsi mansions and temples, Hindu temples, Christian churches and Moslem mosques are all well maintained by trustees, but it is proposed that they be scheduled as National Cultural Property under article 17(1) of the Antiquities and Treasure Trove Ordinance, No.14 of 1957, so as to ensure their future preservation and protection. At present only the ancient inscriptions at Cherok Tokun, Province Wellesley are scheduled.²

Site Museum of Traditional Houses, Kuala Lumpur

In 1971 the Museums Department founded the Traditional Houses Site Museum on a site adjacent to the National Museum, Kuala Lumpur. Up until 1974, however, only one Malay house, the Istana Satu or No.1 Palace, had been purchased and erected.

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1. With good intentions, the City Council of Georgetown converted the inner courtyard of Fort Cornwallis into a children's playground and recreational garden in the late nineteen sixties. Failure to maintain the playground and garden has resulted in the deterioration of the monument.
 2. Al Rashid Bin Mohd, Ibrahim, 'Penang : Pearl of the Orient', Museums Department, Kuala Lumpur, 1972.

The National Museum, Kuala Lumpur, has plans to undertake a complete national survey of historical sites and monuments in cooperation with the National Archaeological Survey and Research Unit (NASRU). Research into the prehistoric and Hindu-Buddhist periods is also planned.

3. INTERNATIONAL TECHNICAL COOPERATION

International Government Agencies

The Federation of Malaysia is a member of the United Nations (UN) and its sister agency, the United Nations Educational Scientific and Cultural Organisation (UNESCO). The latter has provided financial and technical assistance for various programmes.

The Federation of Malaysia is also a Member State of the Southeast Asian Ministers of Education Organisation (SEAMEO), and is playing an active role in the creation of regional training facilities through the establishment of a sub-regional training centre for the preservation of ancient towns and the cultural environment, at Malacca and Kuala Lumpur under the provisions of the SEAMEO Project in Archaeology and the Fine Arts (SPAFA).¹

International Non-Government Agencies

A national committee for the International Council on Monuments and Sites (ICOMOS) is in the process of being constituted at the present time.² In contrast, there has been a national committee for the International Council of Museums (ICOM) for many years, and the Federation of Malaysia hosted the ICOM Meeting on the Protection of Cultural Property in Southeast Asia in December 1972. The ICOM Regional Agency in Asia has sent a number of expert missions to West Malaysia to advise on the establishment of the National Archaeological Survey and Research Unit (NASRU), and the restoration of monuments and sites.²

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1. SEAMES, 'Proposed Development Plan for SEAMEO Project in Archaeology and Fine Arts (SPAFA) for July 1977-June 1980', SEAMEO, Bangkok, July 1976, pp.15-21.
 2. Agrawal, Dr.O.P. 'Conservation of Cultural Property : Malaysia', ICOM Mission, 23-27 January 1970, ICOM Regional Agency in Asia, New Delhi, 1970, pp.1-5.

Private Foundations

Through grants to the ICOM Regional Agency in Asia, New Delhi and Bangkok, Malaysian representatives were able to participate in a number of seminars at Calcutta, Teheran and Kuching, between May 1974 and September 1976.^{1 2} Individual grants were also given to enable Malaysian students and technicians to train abroad.

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1. Lyons, E. 'A Survey of the Art and Archaeology DAP Southeast Asia' (Confidential memorandum reviewing the October 1974-September 1976 period of support), The Ford Foundation, Bangkok, February 1977, p.3.
 2. Morley, Dr. Grace. 'Museums in South, Southeast and East Asia : Supplement 1974 to Survey and Report 1971', ICOM Regional Agency in Asia, New Delhi, 1974, p.35.

6. CONSERVATION FRAMEWORK

1. LEGISLATION

In considering the legislative framework within which conservation is undertaken in the Federation of Malaysia, it should be borne in mind that the Malay Peninsula is separated from Sarawak and Sabah by more than one thousand kilometres of the South China Sea. Each nation developed separately and in consequence, has its own legislative measures which reflect differing local circumstances. The law which protects the cultural heritage of the Malay Peninsula is the Antiquities and Treasure Trove Ordinance, No. 14 of 1957; that which protects the cultural heritage of Sarawak, the Antiquities Ordinance (Sarawak), 1954. The cultural heritage of Sabah remains unprotected by any law, although the possibility of extending the 1957 Ordinance to Sabah is under consideration at the present time. So too is the possibility of introducing new legislation that would be applied throughout the Federation of Malaysia.

WEST MALAYSIA (MALAY PENINSULA).

The Antiquities and Treasure Trove Ordinance, No. 14 of 1957, was enacted on 1 July 1957 by the High Commissioner of the Federation of Malay and their Highnesses the Rulers of the Malay States, with the advice and consent of the Legislative Council, to provide for the control and preservation of ancient and historic monuments, archaeological sites and remains and antiquities; to regulate the law relating to treasure trove; and for matters connected therewith. Simultaneously, the Treasure Trove Enactment, 1936, of the State of Kedah and the Treasure Trove Enactment of the State of Johore were repealed.

Definitions.

Under Section 2 (1) of the 1957 Ordinance, the term 'ancient monument is defined as :

Definitions (cont.)

'...any monument in the Federation which dates or may be reasonably believed to date from a period prior to the first day of January 1850, and includes any other monument which has been declared in accordance with the provisions of section 17 of this Ordinance to be an ancient monument...'

The term 'antiquity' is defined as :

- a) any object, movable or immovable, or any part of the soil or of the bed of a river or lake, or of the sea, which has been constructed, shaped, inscribed, erected, excavated, or otherwise produced or modified by human agency, at any date prior to or reasonably believed to be prior to 1 January 1850; and
- b) any part of any such object which has at any later date been added thereto or reconstructed or restored; and
- c) any human, plant or animal remains which date or may reasonably be believed to date from a period prior to 1 January 1850; and
- d) any ancient monument : provided that no object or remains (i) which has been imported into the Federation on or after the commencement of this Ordinance; or (ii) to which no public interest of a local or national historic, traditional, artistic, archaeological or other scientific character is attached, shall be deemed to be an antiquity...'

The term 'historical site' is defined as :

'...a site which has been declared in accordance with the provision of section 17 of this Ordinance to be a historical site...'

The term 'monument' is defined as :

'...any temple, church, building, monument, port, earthwork, standing stone, keramat, cave or other structure, erection or excavation, and any tomb, tumulus or other place of interment or any other immovable property of a like nature or any parts or remains of the same, the preservation of which is a matter of public interest, by reason of the religious, historic, traditional or archaeological interest attaching thereto, and includes the site of any monument and such portion of land adjoining such site as may be required for fencing or covering in or otherwise preserving any monument and the means of access thereto...'

Definitions (cont.)

The term 'treasure trove' is defined as :

'...any money, coin, gold, silver, plate, bullion, jewellery, precious stones or any object or article of value found hidden in, or in anything affixed to, the soil or the bed of a river or of the sea, the owner of which is unknown or cannot be found, but shall not include any antiquity...'

Discovery of, and Property in, Antiquities

Under sections 3(1-4), 4(1-5), 5(1-5), 6(1 and 2), 7, 8, 9(1 and 2) and 10, of the 1957 Ordinance, every antiquity discovered in the Federation on, or after, the date of the coming into force of the Ordinance became the absolute property of the Government of the State or Settlement wherein the same was discovered; together with every monument which was not owned by any person, or the control of which was not vested in any person as a trustee or manager; and all undiscovered antiquities (other than ancient monuments), whether lying on or hidden beneath the surface of the ground, or in any river or lake, or in the sea.

Any person discovering an object or monument '...which he has reason to believe to be an antiquity or ancient monument...' must notify his discovery to the Penghulu or Penggawa of the area or the District Officer of the District wherein the antiquity was discovered and, if it is practicable to do so, deliver the said antiquity to the District Officer, who in turn may report the discovery to the State Secretary or Settlement Secretary if he has reason to believe that the object is an antiquity, who in turn may report the discovery to the Director of the National Museum. In such a case the Director must inform the Antiquities Board, established under section 2(2) of the 1957 Ordinance, or the committee established by the Board in respect of such State or Settlement. In accordance with the views of the Antiquities Board, the antiquity may or may not be retained by the Government of the Federation. In the former case, the Director of the National Museum is entitled to the custody and possession of the said antiquity and is responsible for its recording, preservation and ultimate disposal. In the latter case, the said antiquity is returned to the possession of the finder thereof.

When any antiquity is retained by the Government of the Federation, one-half of the market value of the antiquity is paid to the finder thereof, and one-half of such value to the owner of the land in or on which the same was discovered. Where the finder of the antiquity and the owner of the land are the same person, the whole of such value is paid to such person. No compensation is paid to the finder of an antiquity who fails to report the finding thereof. Alternatively, the Government of the Federation may enter into a written agreement with such person, whereby in place of such value or part thereof, he receives a share of such antiquity, to be appointed in such manner as may be provided for in such agreement. No such agreement is entered into with the finder of an antiquity who fails to report the finding thereof. Where Compensation is payable to the finder or to the owner of the land in or on which the same was discovered, and such finder or owner as the case maybe consents thereto, the Government of the Federation may at its discretion pay to such finder or owner a reward not exceeding one thousand Malay dollars. No such reward may be paid to the finder of an antiquity who fails to report the finding thereof. Where there is any dispute as to the market value of, or a reasonable price for any antiquity, or as to the apportionment thereof, such dispute is submitted to arbitration in accordance with the provisions of of Arbitrations Ordinance, No.12 of 1950.

Excavations

Under sections 11, 12(1 and 2), 13, 14(1-3), 15(1 and 2) and 16(1 and 2) of the 1957 Ordinance, no person may excavate '...for the purpose of discovering antiquities, whether on land of which he is the owner or occupier or otherwise...', unless licensed to do so. Applications must be made in the prescribed form and contain a full and accurate description of the land on which it is proposed to carry out the excavation, the nature and extent of the proposed excavation, and such other particulars as may be prescribed. In addition to any other conditions which may be either prescribed generally or specified in any particular case, every licence granted is subject to the following conditions :

- (a) the holder of the licence shall take all reasonable measures for the protection of the antiquities discovered by him;

Excavations (cont.)

- b) the holder of the licence shall carry out his excavations in a scientific manner and to the satisfaction of the Director (of the National Museum);
- c) the holder of the licence shall keep a record of all antiquities discovered in the course of the excavation;
- d) the holder of the licence shall, within a reasonable time, deposit with the Director (of the National Museum) such photographs, casts, squeezes or other reproductions of any antiquity apportioned to him under section 6 of this Ordinance as the Director (of the National Museum) may require; and
- e) the holder of the licence shall furnish such plans and photographs of his excavations as the Director (of the National Museum) may require.'

Any licence to excavate may, at the expiration of the period for which it was granted, be extended for such period or periods as the Director of the National Museum deems fit. However, any licence to excavate may, at any time before the expiration of the period for which it was granted, be cancelled without compensation being paid to the holder thereof.

Ancient Monuments and Historical Sites

Under section 17(1 and 2) of the 1957 Ordinance, any monument may be declared to be an ancient monument, and any site to be a historical site, and scheduled thereas, by the Government of the Federation, with whose approval the Director of the National Museum may publish in the Official Gazette, a schedule of ancient monuments and historical sites, together with the limits thereof. Thereafter, no person may without written permission, and in accordance with such conditions as may be imposed under section 18(1 and 2) by the Director of the National Museum :

- 'a) dig, excavate, build, plant trees, quarry, irrigate, burn lime or do similar work or deposit earth or refuse on or in the immediate neighbourhood of an ancient monument or a historical site included in the schedule published in accordance with the provisions of section 17 of this Ordinance, as added to or amended from time to time, or establish or extend a cemetery on a historical site so included; or
- b) demolish an ancient monument or disturb, obstruct, modify, mark, pull down or remove any such monuments or any part thereof; or

Ancient Monuments and Sites (cont.)

- c) make alteration, additions or repairs to any ancient monument; or
- d) erect buildings or walls abutting upon an ancient monument.'

Under section 19(1) of the 1957 Ordinance, where any ancient monument or historical site is situated upon private property, the Government of the Federation acting on the advice of the Director of the National Museum may :

- 'a) make arrangements with the owner or occupier thereof for its preservation, inspection and maintenance, and for such purposes make a contribution towards the cost of carrying out any works of repair or conservation which it deems necessary, and which the owner or occupier may be willing to undertake : provided that where such a contribution towards the cost of carrying out such works is made, such works shall be carried out in accordance with such direction as the Government after consultation with the Director (of the National Museum) may give; or
- b) purchase or lease the site by private treaty or acquire the same in accordance with the provisions of any written law relating to the acquisition of land for a public purpose for the time being in force; or
- c) in the case of an ancient monument, remove the whole or any part thereof, making good any damage done to the site or to buildings thereon by such removal and paying compensation therefor : provided that the amount of such compensation shall be fixed by agreement or in the case of dispute shall be submitted to arbitration in accordance with the provisions of the Arbitration Ordinance, No.12 of 1950.'

The owner or occupier of an ancient monument or historical site must, '...at all reasonable times...', permit the Director of the National Museum or any other authorised person to enter upon the site for inspection or to carry out any study or work necessary for the restoration, repair, alteration, maintenance or conservation thereof, as to him may appear expedient or necessary. The foregoing is subject to the proviso that a minimum of seven days advance notice is given in writing to the owner or occupier and that such person does not have any objections to such entry or to the execution of such works on conscientious or religious grounds.

No such owner or occupier is entitled to claim compensation for any loss or damaged suffered or alleged to have been suffered by him by

Ancient Monuments and Sites (cont.)

reason of the execution of such works or any part thereof in any case in which the owner or occupier has undertaken to do such works under section 19 of the 1957 Ordinance.

Archaeological Reserves

Under sections 21 and 22 of the 1957 Ordinance, any specified area of State or Federation land may by order be declared to be an archaeological reserve, and no person may :

- 'a) clear to break up for cultivation or cultivate any part of an archaeological reserve; or
- b) erect any building or structure upon any such reserve; or
- c) fell or otherwise destroy any tree standing on any such reserve; or
- d) otherwise encroach on any such reserve.'

Treasure Trove

Under sections 23(1-4), 24(1 and 2), 25, 26(1 and 2), 27, 28(1-3), 29 and 30 of the 1957 Ordinance, any person discovering any treasure trove must notify his discovery to the District Officer of the District wherein the treasure trove was discovered and, if it is practicable to do so, deliver the said treasure trove to the District Officer, who in turn may report the discovery to the State Secretary or Settlement Secretary of the State or Settlement wherein such treasure trove was discovered. If the District Officer has reason to believe that any treasure trove has been discovered in his District and the discovery of the same has not been notified to him, he may by written notification require the finder thereof to appear personally before him and deliver up to him all such treasure trove or suspected treasure trove so discovered. Notification of the discovery of such treasure trove or suspected treasure trove is published in two successive editions of the Official Gazette and published locally in the District for at least one month. All persons claiming the treasure trove or any part thereof must then appear personally or by agent before the District Officer, not earlier than two months and not later than three months after the first date of publication in the Official Gazette. If the District Officer is of the opinion that the treasure trove was hidden more than

Treasure Trove (cont.)

fifty years before the date of discovery, or if no suit is instituted to recover the treasure trove, or if such suit is instituted and rejected, then the District Officer may declare the said treasure trove to be ownerless. Persons aggrieved by such a declaration may appeal within two months to the High Court, the decision of which is final and conclusive. Treasure trove declared to be ownerless is vested in and belongs to the Government of the State or Settlement wherein the same was discovered which may, at its discretion, reward the finder and the owner of any land in which it was found.

Export of Antiquities

Under sections 31(1-4), 32(1 and 2), 33(1 and 2) and 34 of the 1957 Ordinance, no person may export any antiquity unless he has obtained a licence to export the same from the Director of the National Museum, who must consult with the Government of any State or Settlement which appears to be interested in such antiquity before issuing such a licence. However, if in the opinion of the Director of the National Museum the antiquity is '...of lasting national importance or interest and should be acquired on behalf of the Government of the Federation or of any State or Settlement or if for any other reason it is not desirable in the public interest that such antiquity should be exported...', he may not issue such a licence. In no case may a licence be issued to any person unable to prove to the satisfaction of the Director of the National Museum that he is the owner of such antiquity or that he is acting on behalf of and with the authority of such owner. Applicants for a licence must submit a list of the antiquities sought to be exported and declare the value thereof and furnish any other particulars in regard thereto which the Director of the National Museum may require and, if so required, deposit any such antiquity with the Director of the National Museum for the purpose of inspection. Where the issue of a licence is refused on the ground that such antiquity ought to be acquired on behalf of any Government in the Federation or on the ground of public interest, the person aggrieved may within one month of such refusal appeal to the Antiquities Board whose decision is final. Compensation at the market value is paid to the owner of any antiquity acquired on behalf of the Government of any State or Settlement or the Government of the Federation and thereupon the owner must deliver up the same to the Director of the National Museum.

Penalties

Under section 37(1-10) of the 1957 Ordinance, any person who :

- 1) being the finder of any antiquity or treasure trove fails to report the same or to deliver up the same or to state the circumstances of the discovery or the origin of the same, or wilfully makes a false report of such circumstances or such origin, shall be liable to imprisonment for one year or to a fine of two thousand (Malay) dollars or to both such imprisonment and such fine.
- 2) not being the holder of a licence to excavate granted under section 13 of this Ordinance, who wilfully or negligently digs for antiquities or demolishes or damages any ancient monuments, whether above or below the ground, even though the acts are done upon land of which he is the owner, shall be liable to imprisonment for three months or to a fine of five hundred (Malay) dollars or to both such imprisonment and fine.
- 3) commits an offence against any of the provisions of section 18 of this Ordinance shall be liable to imprisonment for three months or to a fine of five hundred (Malay) dollars or to both such imprisonment and fine.
- 4) commits an offence against any of the provisions of section 22 of this Ordinance shall be liable to imprisonment for three months or a fine of five hundred (Malay) dollars or to both such imprisonment and fine.
- 5) not being the holder of a licence to export granted under section 31 of this Ordinance, exports or attempts to export any antiquity shall be liable to imprisonment for three months or to a fine of five hundred (Malay) dollars or to both such imprisonment and such fine.
- 6) exports or attempts to export any antiquity in respect of which a licence to export has been refused in accordance with the provisions of section 34 of this Ordinance shall be liable to imprisonment for one year or to a fine of two thousand (Malay) dollars or to both such imprisonment and such fine.
- 7) sells or otherwise disposes of any antiquity, contrary to the provisions of section 9 of this Ordinance, shall be liable to imprisonment for six months or to a fine of one thousand (Malay) dollars or to both such imprisonment and such fine.
- 8) fails to give reasonable facilities to the Director (of the National Museum) or any officer authorised by the State or Settlement Secretary, to inspect, study, make drawings, photographs, squeezes or other reproductions of any antiquity or to enter and carry out necessary work for the restoration, repair, alteration, maintenance or conservation of any ancient monument or historical site, where the duty to give such facilities is imposed by this Ordinance, shall be liable to a fine of five hundred (Malay) dollars.

Penalties (cont.)

- 9) maliciously or negligently destroys, injures, defaces, displaces, disturbs or disfigures any antiquity shall be liable to imprisonment for one year or to a fine of two thousand (Malay) dollars or to both such imprisonment and such fine.
- 10) wilfully deceives or attempts to deceive any public officer acting in the course of his duty by any description, statement or other indication as to the genuineness or age of any antiquity or object of archaeological interest shall be liable to imprisonment for one year or to a fine of two thousand (Malay) dollars or to both such imprisonment and such fine.

Town and Country Planning Legislation

Town and Country Planning legislation on a national or state level does not yet exist in the Federation of Malaysia, but it is reported that the Federal Government in collaboration with the Ministry of Technology, Research and Local Government is drafting a National Town and Country Planning Act modelled on the British Town and Country Planning Act of 1947.¹

The law relating to town planning in Peninsular Malaysia, other than the Federal Capital, Kuala Lumpur, is contained in a number of ordinances and enactments, the most important of which is Part IX of the Town Boards Enactment² and parallel provisions of the Municipal Ordinance³ on the subject of town planning for areas where applicable. Other legislation, dealing in one way or another with land use includes the National Land Code⁴, the Land Acquisition Enactment⁵, the Housing Trust Ordinance⁶, the Crown Lands Ordinance⁷ and the Land Acquisition Ordinance⁸. Certain sections of other legislation also have reference to matters concerned with town and country planning as, for example, the control of space around buildings in the building by-laws, an important factor which very much affects population density, encroachment and development.

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1. Dato Ong Kee Hui, Minister of Technology, Research and Local Government, addressing the Town Planning Senior Officers' Conference, Kuala Lumpur, May 1971, in 'Perancang', September 1971, Vol.3, No.2.
 2. E.M.S. Cap. 137.
 3. S.S. Cap. 133.
 4. Act 56 of 1965.
 5. F.M.S. Cap. 140.
 6. F. of M. No.62 of 1950.
 7. S.S. Cap. 113.
 8. S.S. Cap. 128.

This body of law gives statutory powers to local authorities for the preparation, approval and administration of town plans. The general principle is that areas should be zoned for various specified permissible uses in plans for urban development, and it is the practice to make broad provisions in these plans for zones or sections designed for residential, commercial, agricultural and industrial uses including intensity of development calculated by reference to the number of houses or persons on any one acre; the percentage of the area of any lot to be covered by building; and the total floor space of buildings, or calculated in such other manner as the relevant authority may determine.¹

The uses permitted in each zone, in addition to those prohibited, are described and classified and form part of the town plan. But while each of Peninsular Malaysia's three hundred and seventy three local authorities is empowered under the provisions of the Town Boards Enactment '...to prepare a general town plan in respect of the area for which it has been appointed or any part thereof...', it is not mandatory to do so within any specified time, or at all. Because local authorities are compelled to acquire, by compulsory purchase if necessary, all land zoned for public purposes and to pay compensation to the owner thereof, they are understandably reluctant to prepare and publish in the Official Gazette any development plan proposals and to date, no single local authority has prepared a town plan. Hence, whatever planning is undertaken is on a piece-meal basis.

Aware of the weaknesses inherent in the Part IX of the Town Board Enactment, the Government of the Federation of Malaysia enacted on 18 August 1970, the Emergency (Essential Power) Ordinance No.46 of 1970, at the same time repealing Part IX of the Town Board Enactment in so far as it applied to the Federal Capital of Kuala Lumpur and introducing the concept of charging a 'development levy' on certain classes of planning permissions granted by the Federal Department of Town and Country Planning.

1. Lam Thim Fook, T. 'Urban Land Use Policy and Development with Reference to Malaysia', in 'The Cities of Asia', Wong, J. (Ed.), Singapore University Press, Singapore, 1976, pp.113-132,

EAST MALAYSIA (SARAWAK)

The Antiquities Ordinance, Sarawak, 1954, was enacted on 1 October 1954.

Definitions

Under section 2 of the 1954 Ordinance, the term 'antiquity' includes any ancient monument and is defined as :

'...any object, whether movable or immovable or a part of the soil, which has been constructed, shaped, inscribed, erected or otherwise produced or modified by human agency earlier than the year 1850 A.D., together with any part thereof which has at a later date been added, reconstructed or restored; and any human, plant, or animal remains of a date earlier than the year 1850 A.D.'

The term 'historical monument' is defined as :

'...any site, monument or other thing of like character, the preservation of which is a matter of public interest by reason of religious, historic, traditional or archaeological interest attaching thereto; and any part of adjoining land which may be required for fencing, covering in, cordoning off or otherwise preserving it from injury, and also includes the means of access thereto.'

Antiquities

Under sections 4, 6(1) and 20 of the 1954 Ordinance, any person finding an antiquity must immediately notify the Curator of the Sarawak Museum of his discovery, and any such person in possession of such an antiquity must, at the request of the Curator, permit the same to be inspected and studied by any person or officer authorised by him. Any person wishing to sell or otherwise dispose of an antiquity must give notice of the proposed transaction to the Curator or the District Officer who must in turn report to the Curator.

Export of Antiquities

Under section 11(1) of the 1954 Ordinance, no person may export any antiquity unless he has obtained an export permit from the Curator of the Sarawak Museum to do so.

Excavations

Under section 8(1) of the 1954 Ordinance, no person may dig or search for antiquities whether on his land or elsewhere unless he is in possession of a valid licence to excavate issued by the Curator of the Sarawak Museum.

Historic Monuments

All monuments and sites declared to be historic monuments under the relevant section of the 1954 Ordinance are owned by the Government of the State or the Government of the Federation and no alterations, additions, repairs or other works necessary to ensure the maintenance and conservation of such historic monuments may be undertaken without the written permission of the Curator of the Sarawak Museum and who is also the Controller of Monuments.^{1 2}

Penalties

The penalties for failing to comply with any of the above mentioned sections of the 1954 Ordinance are imprisonment, ranging from three months to one year, or a fine, ranging from five hundred to two thousand (Malay) dollars or to both such imprisonment or fine.

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1. Chin, Lucas. 'Trade and Preservation of Antiquities and Other Cultural Objects in Sarawak', Report to ICOM Meeting of Experts on the Protection of Cultural Property', Malacca, 12 and 13 December 1972 (Document No.20).
 2. Questionnaire completed by Dr. Lucas Chin, Curator, Sarawak Museum, on 3 November 1974 and returned to the author.

2. ADMINISTRATION

The Museums Department, founded in 1957, is the national agency responsible for the conservation of the Federation of Malaysia's heritage of cultural property. Under the jurisdiction of the Ministry of Culture, Youth and Sports, the Department is directly responsible for the implementation of all programmes of archaeological research, preservation, restoration, landscaping, protection and presentation to the public of the nation's archaeological sites and historic monuments. For reasons both historical and physical the Department acts through two separate regional agencies in Peninsular Malaysia and Sarawak; the National Museum, Kuala Lumpur, in the former and the Sarawak Museum, Kuching, in the latter.

WEST MALAYSIA (MALAY PENINSULA)

National Museum, Kuala Lumpur

The Director of the National Museum, Kuala Lumpur, who is also the Director-General of the Museums Department, is charged with the responsibility of enforcing the Antiquities and Treasure Trove Ordinance, No.14 of 1957, and implementing government policies and programmes relating to conservation. He is assisted in this task by the Chairman of the Antiquities Board.

The National Museum controls the Museum Department divisions of archaeology and ancient monuments, the National Archaeological Survey and Research Unit, and four state museums at Penang, Kedah, Malacca and Pahang. In addition there are five branches of the National Museum, each under the direction of an assistant curator :

<u>Branch</u>	<u>State</u>	<u>Location</u>
Malacca	Malacca	South
Kota Baharu	Kelantan	North
Taiping	Perak	West
Kuantan	Pahang	East
Kuala Lumpur	Selangor	Central

National Archaeological Survey and Research Unit

The National Archaeological Survey and Research Unit (NASRU) was established by the Museums Department in 1971 to conduct surveys and research into every aspect of archaeology, historical monuments, buildings and sites, and to undertake all aspects of preservation, conservation, landscaping and protection. It works closely with the Central Documentation Unit (CDU) of the National Museum and to date has organised three major projects :

- 1) The Bujang Valley Project;
- 2) The Malacca - Town of History Project; and
- 3) The Penang - Pearl of the Orient Project.

Details of these projects are outlined in sub-section 5, 'Policy and Programmes', of this section.

The joint NASRU/National Museum Conservation Laboratory, originally programmed for completion during the 1973-74 financial year remains to be built.

To date, NASRU has not undertaken any prehistoric archaeological work as it is rightly felt that historical monuments, buildings and sites are in need of more pressing attention because of the rapid economic development of Peninsular Malaysia. It is envisaged that over the next few years NASRU will develop a programme for the preservation, conservation, landscaping and protection of the cultural heritage of each state of the Federation.

Antiquities Board

The Antiquities Board was established in 1957 under section 2(2) of the Antiquities and Treasure Trove Ordinance, No.14 of 1957 for the specific purpose of deciding whether any object is or is not an 'antiquity' as defined under section 2(1)(a) of the said Ordinance. The Board consists of fourteen members, eleven of whom are nominated by the state governments of the Federation and three of whom are nominated by the Minister of Culture, Youth and Sports, who is also the Chairman of the Board. The Director of the National Museum is the Secretary of the Board.

Among the three hundred and seventy three local authorities in existence in Peninsular Malaysia, only the Federal Capital, Kuala Lumpur, the City of Georgetown (now combined with the Penang Island Rural District Council to form the integrated Council of Penang Island) and the Municipality of Ipoh have qualified planning staff on their establishment. In Malacca, town planning is a function of the Municipal Engineer. Other local authorities at present employ no staff, relying for advice and assistance upon federal officers of the various state departments or on the Headquarters staff of the Federal Department of Town and Country Planning, who assist so far as their very limited resources of personnel and finance will allow.

Urban Development Authority

The Urban Development Authority (UDA) was established by Act of Parliament No.46 of 1971 and vested with powers to undertake urgent and important tasks in achieving the New Economic Policy outlined in the Second Malaysia Plan 1971-75. The functions of the UDA, among others, are as follows :

1. '...to promote and implement projects in urban areas that require resettlement, redevelopment and public housing, and to provide social services and amenities appropriate for life in a modern society...';
2. '...to promote and carry out projects in urban development areas with a view to achieving distribution of opportunities in commerce and industries, housing and other activities among the various races...'; and
3. '...to translate into action-programmes the Government's policy to restructure society through urban development...'¹

1. Lam Thim Fook, Timothy. Op. Cit.

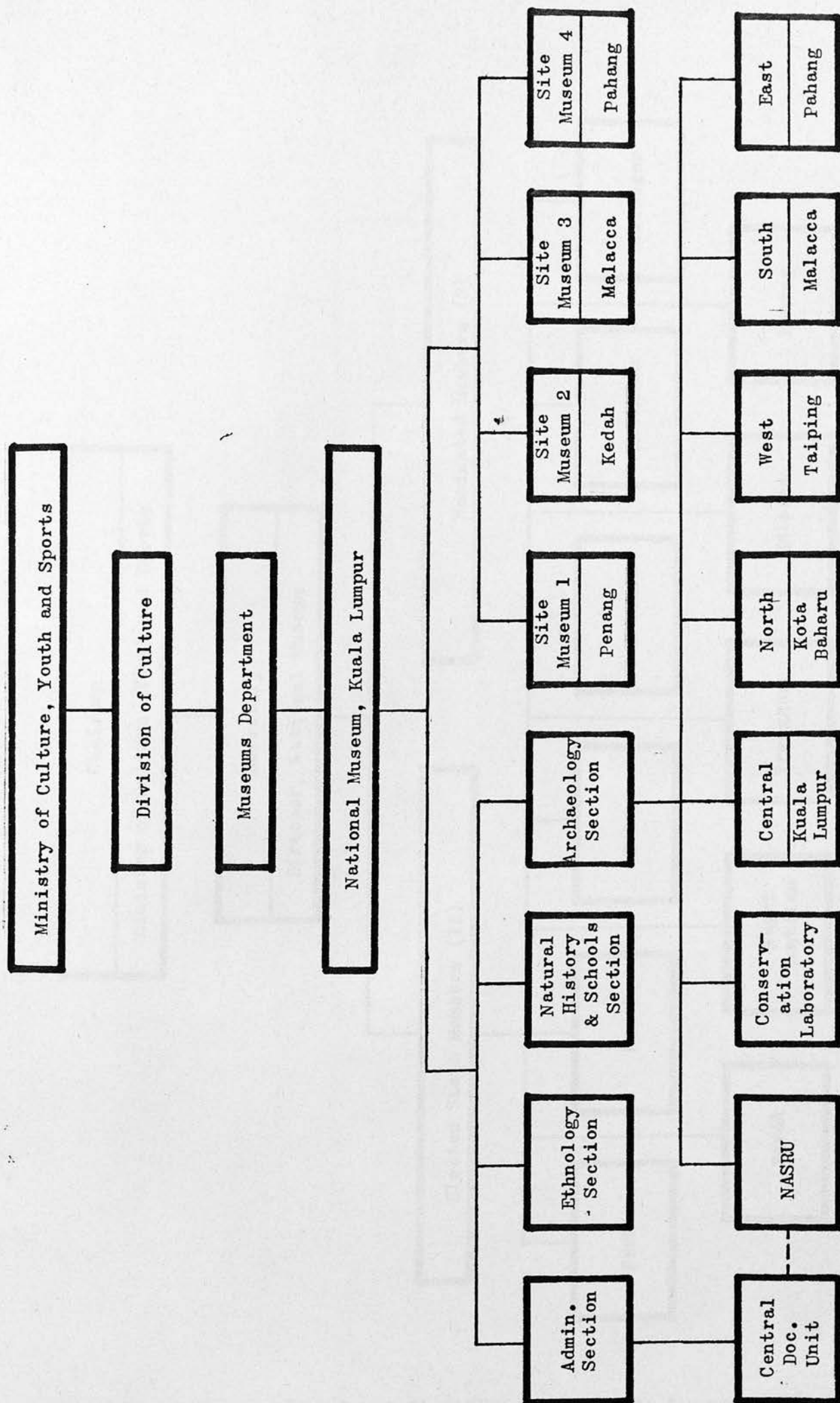


Fig. 149 Malaysia (West) -
National Museum, Kuala Lumpur.

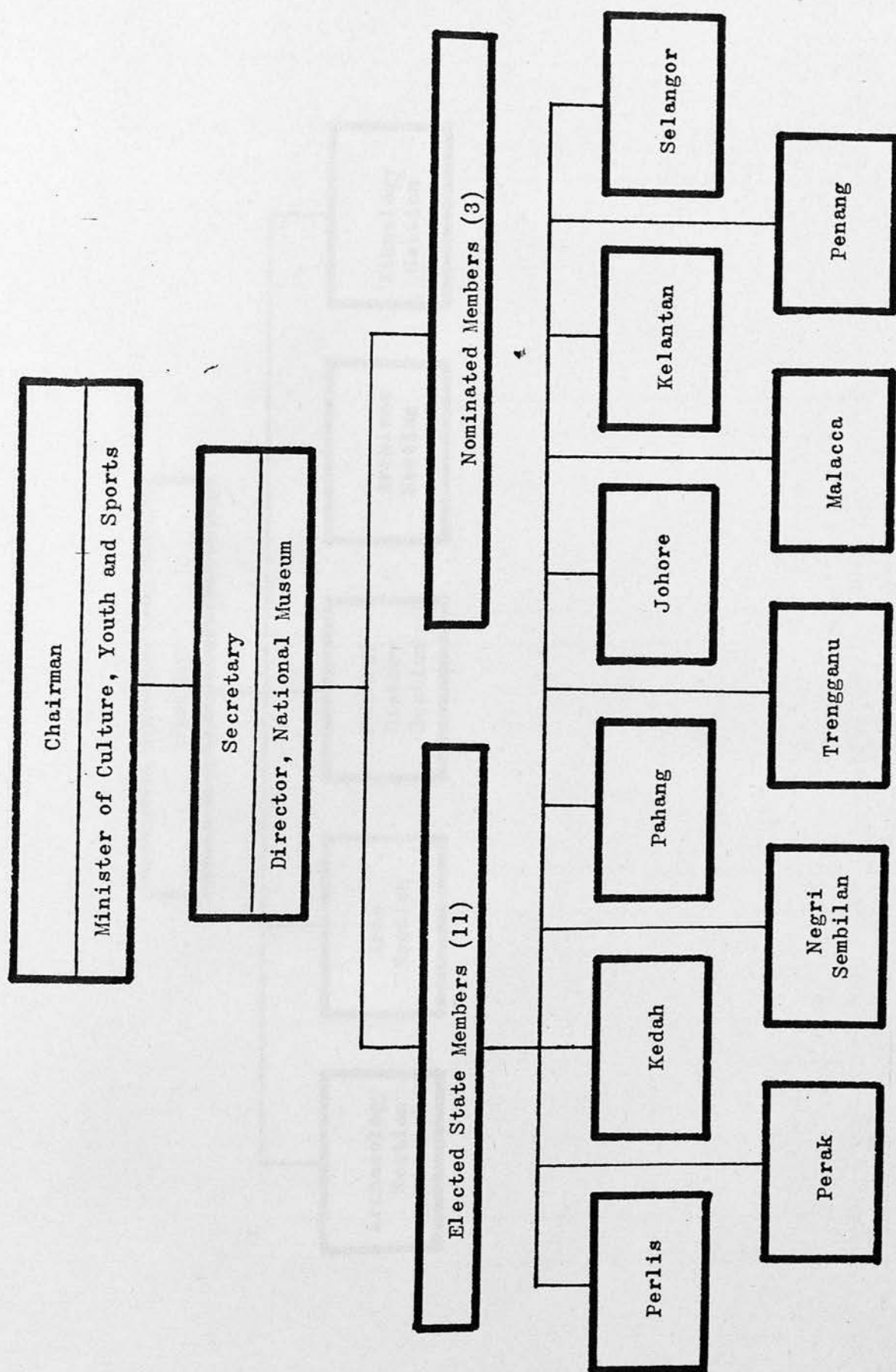


Fig.150 Malaysia (West) - Antiquities Board, Kuala Lumpur.

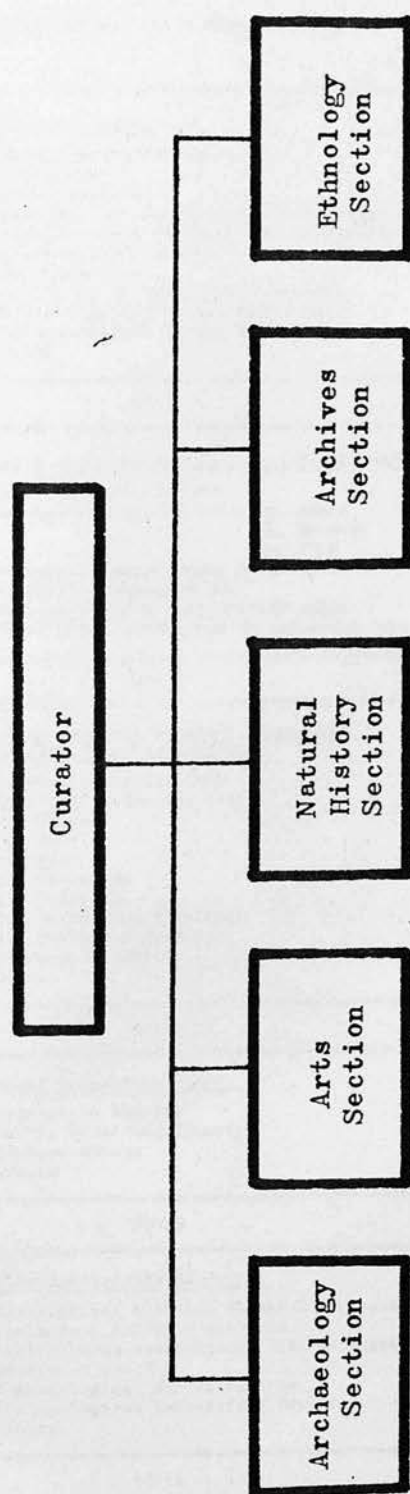


Fig. 151 Malaysia (East) - Sarawak Museum, Kuching (1974).

ARCHAEOLOGICAL STAFF CLASSIFICATION	STAFF AND EMPLOYMENT DATA		
	(1) Present Staff	(2) Additional Staff needed now	(3)* Additional Staff needed in 3 yrs.
<u>Professional Staff</u>			
1. Administrators/Managers	2	2	2
2. Historians	0	3	3
3. Archaeologists	1	1	2
4. Philologists, Epigraphists & Linguists	0	0	0
5. Ethnologists & Cultural Anthropologists	9	3	13
6. Museologists/Curators	0	1	1
7.8.9. Librarians	2	2	3
10. Architects of Historical Monuments	0	0	1
11. Excavation/Restoration Technicians	3	8	11
12. Monument/Object Dating Specialists	0	1	2
13. Others	1	1	2
TOTAL	18	22	40
<u>Monument Excavation/Restoration/Conservation</u>			
1. Excavation Specialists	0	3	3
2. Restoration Specialists: a. Stone	0	0	1
b. Masonry	0	0	1
c. Wood	0	0	1
3. Monuments Conservation Specialists	1	1	1
4. Draftmen & Topographers	0	3	4
5. Photographers & Photo-Interpreters	2	3	4
6. Other Specialists such as engineers, etc			
TOTAL	3	10	15
<u>Cultural Property/Skeletal Excavation and Restoration/Conservation</u>			
1. Excavation Specialists		2	2
2. Restoration Specialists:			
a. Stone			1
b. Metal			1
c. Wood			1
d. Skeletons			1
e. Textiles			1
f. Documents, Paintings			0
g. Pottery & Ceramics		1	2
3. Draftmen & Artists	1	1	2
4. Others			
TOTAL	1	4	11
<u>Internal Supporting Staff</u>			
1. Exhibition Experts	1	2	3
2. Public Relations Experts	1	2	3
3. Trained Guides	3	3	3
4. Others			
TOTAL	5	7	9
<u>Outside Specialists Resources</u>			
1. Geographical & Aerial Survey & Analysis	1	1	1
2. Geological Survey & Analysis	1	1	1
3. Public Works Specialists (lab. technician draftsmen etc.)	1	1	1
4. Climatological Survey Experts			
5. Archaeological Legislation Experts			
6. Others			
TOTAL	3	3	3

1. ARCAFA Project Development Office (APDO), 'Report of Task Force on Manpower in Archaeology in the SEAMEO Region', SEAMEO, Phnom Penh, October 1973 (Table 4).

EAST MALAYSIA (SARAWAK)

Sarawak Museum, Kuching

The Curator of the Sarawak Museum, Kuching, founded in 1891, is charged with the responsibility of enforcing the Antiquities Ordinance (Sarawak) 1954, and implementing government policies and programmes relating to conservation. For the purpose of administering archaeological sites, historical monuments, buildings and sites protected under the provisions of the 1954 Ordinance, the Curator is also the Controller of Historic Monuments.

The work of the Museum is divided amongst the following sections :
Archaeology; Arts; National History; Archives; and Ethnology.

3. FINANCE

Federal Government Financing

In 1972 the Museums Department budget exceeded five million (Malay) dollars. This figure, which excluded expenditure on specialised research programmes and conservation, is believed to have been increased by between ten and twenty per cent. per annum ever since. Separate sums for the conservation of the Federation of Malaysia's heritage of cultural property are provided for in the Development Plan Budget and directed through the National Museum, Kuala Lumpur and the Sarawak Museum, Kuching.

WEST MALAYSIA (MALAY PENINSULA)

National Museum, Kuala Lumpur

The annual budget of the National Museum, Kuala Lumpur, for the 1971-75 financial years (1 January-31 December) was as follows :

<u>Financial Year</u>	<u>Annual Budget (Malay) dollars</u>	<u>Expenditure</u>
1971-1972	900,000	Survey of sites, excavations, restoration, landscaping, protection of monuments and sites.
1972-1973	900,000	
1973-1974	900,000	
1974-1975	1,000,000	

Sarawak Museum, Kuching

The annual budget of the Sarawak Museum varies each year and no figures are currently available.

Non-Government Financing

The financing of repairs, restorations, alterations, extensions and reconstructions of unregistered historical monuments, buildings and sites, is widespread and is largely undertaken by private foundations and trusts representing various ethnic and religious communities. The extent of such financing remains a matter of conjecture, however, as no figures are available for inspection.

4. EDUCATION AND TRAINING

In the absence of a national training centre, the Museums Department trains its own technicians, as well as those of other countries in Southeast Asia, in conservation and museology. The University of Malaysia, the National University and the Science University each offer courses in prehistory, but only one offers a training course in archaeology and, in consequence, much technical training is done overseas in the United States and Europe. Such 'western' training is often criticised as being '...out of context...' ¹ The Federation of Malaysia is a member of the International Centre for Conservation. ²

Training Abroad

Increasingly, the Federation of Malaysia is looking to India and its neighbours for specialist training, and in the future it is likely that the SEAMEO Project in Archaeology and Fine Arts (SPAFA) will become the primary educational and technical training medium. ³

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1. Al Rashid bin Mohd. Ibrahim. 'Conservation in Malaysia', Paper presented to ASPAC Asia Pacific Conference on Conservation of Cultural Property, 7-12 February 1972, New Delhi, IASC, New Delhi, p.5.
 2. Since October 1966.
 3. SEAMES, 'Report of the SPAFA Task Force', SEAMEO, Bangkok, July 1976

REPUBLIC OF THE PHILIPPINES
REPUBLICA DE FILIPINAS/REPUBLIKA NG PILIPINAS

1. MONSOON ASIAN SETTING

1. KEY FACTS

Area	:	300,440 sq. km.
Capital City	:	Quezon City (pop. 754,452).
Land Use	:	30% cultivated, 53% forest, 5% pasture.
Population	:	43.7 million (49.5% below 19).
Growth Rate	:	2.3% per annum.
Density	:	150 per sq. km.
Life Expectancy	:	56 males, 60 females.
Per Capita GNP	:	US\$330 dlrs. (1974).
System of Government	:	Independent Republic.

2. PHYSICAL SETTING

Situation

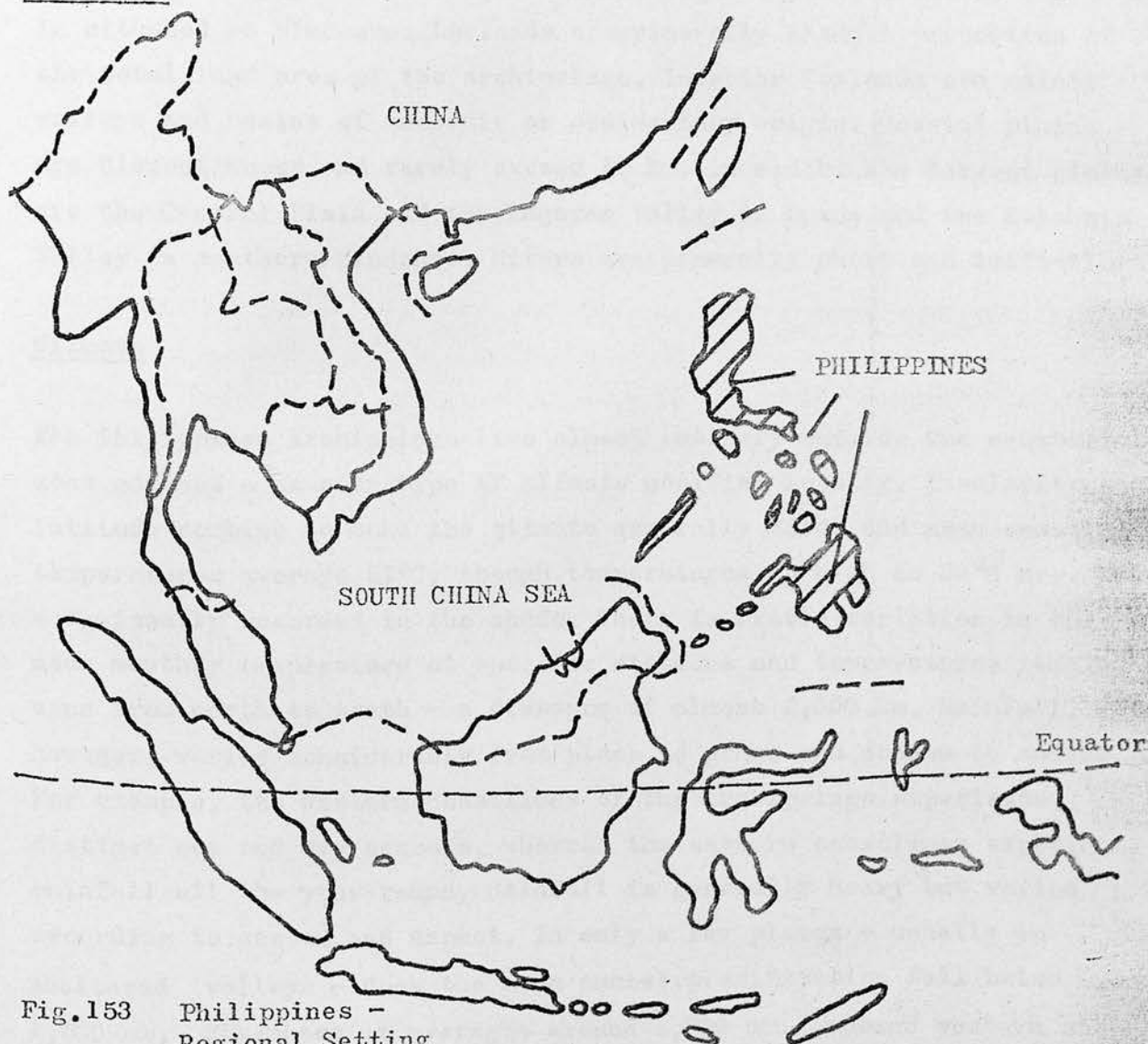


Fig.153 Philippines -
Regional Setting
1 : 30 million.

Situation (cont.)

The Republic of the Philippines, which comprises eleven main islands (Luzon, Mindanao, Samar, Negros, Palawan, Panay, Mindro, Leyte, Cebu, Bohol, and Masbate) and more than seven thousand minor islands, less than half of which are named, is situated between latitudes 4 30 N and 21 20 N. The capital city, Quezon City (pop. 754,452), is situated at latitude 14 50 N. The total land area of the archipelago is 300,440 sq. km. of which the above-mentioned eleven main islands account for more than ninety per cent. of the total. The archipelago is bounded by the Pacific Ocean (east), Taiwan (north), the South China Sea (west), and Indonesia (south).

Geology, Relief and Drainage

The Philippines archipelago is of relatively recent origin and comprises predominantly igneous rocks and small outcrops of limestone, shale, and sandstone. Almost all the main islands are mountainous and there are more than fifty peaks over 1,500 m. The highest peak, Mount Ap (3,133 m.), is situated on Mindanao. Lowlands comprise only a small proportion of the total land area of the archipelago. Interior lowlands are mainly valleys and basins of tectonic or sedimentary origin. Coastal plains are discontinuous and rarely exceed 15 km. in width. The largest plains are the Central Plain and the Kagayan Valley in Luzon and the Kotabato Valley in southern Mindanao. Rivers are generally short and swift-flowing.

Climate

The Philippines archipelago lies almost entirely outside the equatorial zone and has a monsoon type of climate modified locally. Insularity and latitude combine to make the climate generally mild, and mean annual temperatures average 27°C, though temperatures as high as 30°C are occasionally recorded in the shade. There is little variation in the mean monthly temperature at specific stations and temperatures remain even from north to south - a distance of almost 2,000 km. Rainfall, however, varies considerably from place to place and season to season. For example, the western coastlines of the archipelago experience distinct wet and dry seasons, whereas the eastern coastlines experience rainfall all the year round. Rainfall is generally heavy but varies according to season and aspect. In only a few places - usually in sheltered valleys - does the mean annual precipitation fall below 1,500 mm. Elsewhere it averages around 2,000 mm. Exposed western slopes

Climate (Cont.)

in the southwest of the archipelago experience a mean annual precipitation of 3,000-4,500 mm. The northern island of Luzon lies in the track of tropical cyclones (typhoons) which occasionally cause widespread damage and loss of life.

Earthquake and Volcanic Activity

Volcanoes and their ejecta dominate the landscape of Luzon as far south as the southern peninsular, and Mount Mayon (2,727 m.) is considered to be one of the most perfectly formed volcanic cones in the world. Equally noteworthy, but in a different way, is Mount Taal, near Manila, which has periodically erupted throughout history with great violence. In 1911 more than a thousand people were killed in a major eruption. The archipelago is bounded by the China Basin on the west (4,200 m.) and the Philippine Trench on the east (10,973 m.) placing it in an area of extreme tectonic instability.

Vegetation

In areas where the mean annual precipitation exceeds 1,500 mm., such as northeastern Luzon, southern Negros, Samar, Palawan and Mindanao, tropical rain forest predominates. Over three thousand species are recorded, including Shorea (Philippine Mahogany) and many other hardwoods. Elsewhere, in areas where the mean annual precipitation is less than 1,500 mm. deciduous secondary forest predominates. There are also extensive areas of Bamboo and Rattan, and approximately 18 per cent. of the land area of the archipelago is covered with a tall coarse grass known locally as 'Cogon'. Coastal areas are fringed with mangrove sea-swamp forest backed with Nipah Palms.

Land Use

More than half of the land mass of the archipelago is covered with forest (53%).

3. CULTURAL SETTING

Population

The population of the Philippines archipelago (43.7 million) comprises

Population (cont.)

Filipinos (peoples of Malay, Chinese, Spanish, and Indonesian origins), Negritos, Papuans, and various hill tribes (Igorots, Kalingas, and Apayaos). The average population density is approximately 150 per sq. km. However, distribution is very uneven and settlements are concentrated on lowlands. The islands having the greatest average density are Cebu, Bohol, Leyte, and Panay. Population density in Cebu averages more than 600 per sq. km. In Luzon, the greatest concentrations occur along the shores of Manila Bay, in the provinces of Pampanga, Rizal and Cavite. The lowest densities are to be found in Mindoro and Palawan. In general, the population density decreases from north to south and from west to east.

FIG.154 PHILIPPINES - ESTIMATES OF URBAN AND RURAL POPULATION

	1950	1960	1970	1975	1980	
Urban	5,575	8,195	12,992	16,453	20,847	('000)
Rural	14,741	19,215	25,122	28,894	33,243	('000)

Language

Tagalog (a Malay dialect) is the official language of the Republic of the Philippines. However, more than 10.5 million people speak English and a further 0.5 million speak Spanish. More than 70 native dialects are also spoken, of which nine are of major importance and belong to the Malayo-Polynesian family.

Religion

The majority of the population of the Republic of the Philippines practice Roman Catholicism, but there are significant numbers of Aglipayans, Moslems, Protestants, Buddhists, Taoists, Confucianists and members of the Iglesia ni Kristo. Animosity between the Filipino Christians and the southern Moslems has caused the death of countless people over the last decade and a state of near civil war prevails in Sulu.

4. ECONOMIC SETTING

Cultural Tourism

The city of Manila is the major centre of cultural tourism in the

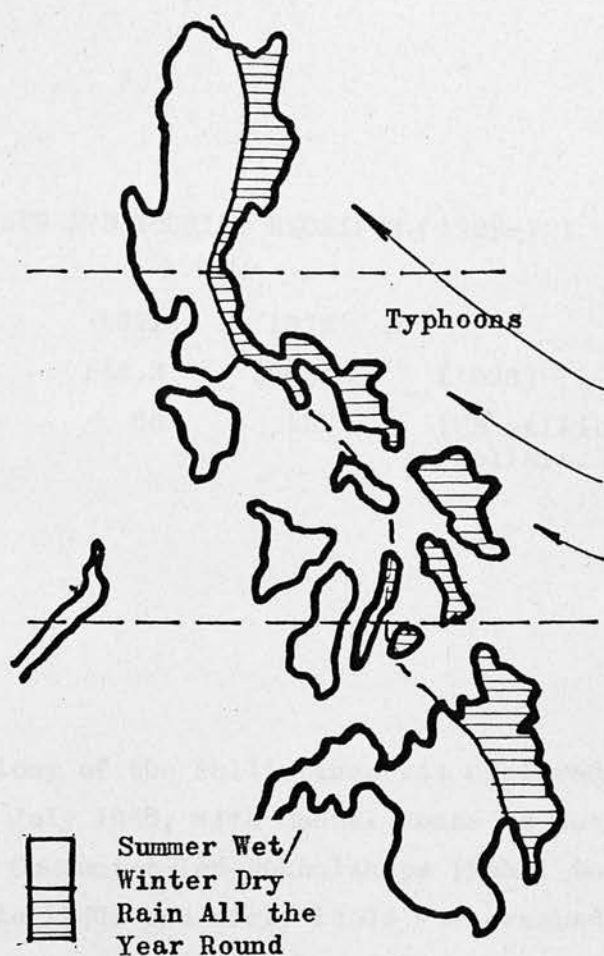
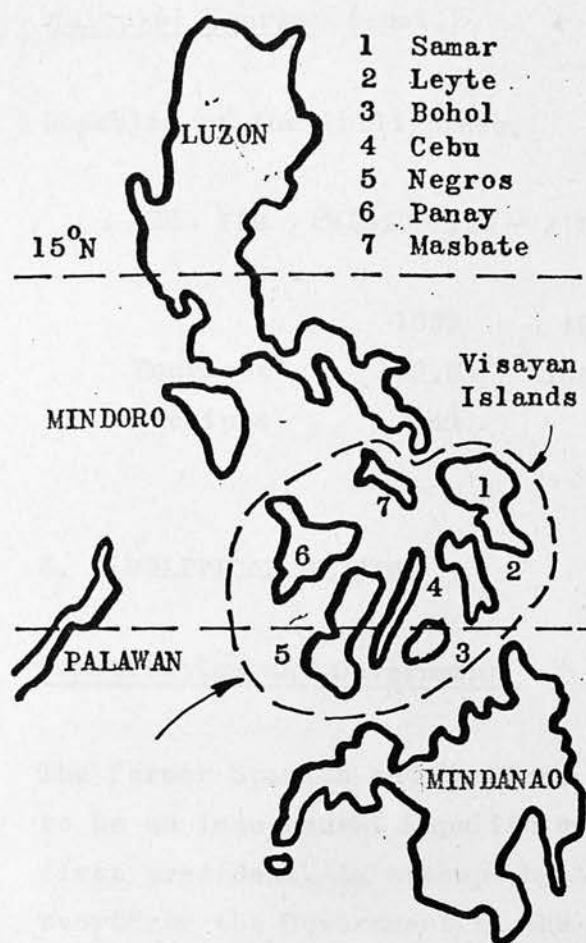


Fig.155 Philippines - Boundaries and Island Groups (L)

Fig.156 Philippines - Rainfall and Typhoons (R)

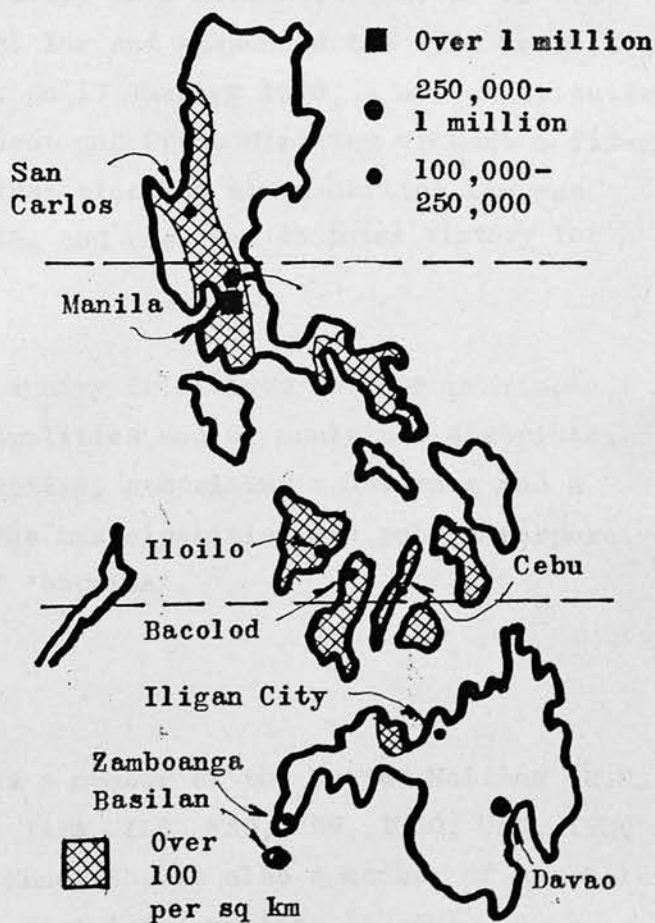
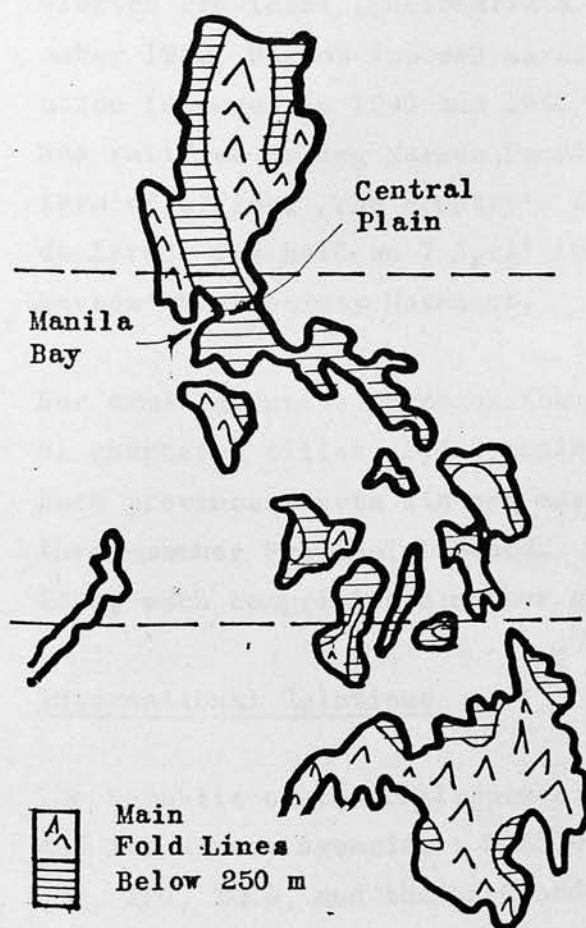


Fig.157 Philippines - Build

Fig.158 Philippines - Population

Republic of the Philippines.

FIG. 159 PHILIPPINES - TOURISTS AND TOURIST RECEIPTS (1969-72)

	1969	1970	1971	1972	
Tourists	123.3	144.1	144.3	166.4	('000)
Receipts	49	95	66	157	(US million) dollars.

5. POLITICAL SETTING

Constitution and Government

The former Spanish and American colony of the Philippines was declared to be an independent Republic on 4 July 1946, with Manuel Roxas as the first president. An attempt by the Communist-led Hukbalahaps (Huks) to overthrow the Government in the late 1940s and early 1950s was crushed by Ramon Magsaysay, who later became President. Ferdinand Marcos - a former guerilla fighter during the Japanese Occupation of 1942-45 - was elected President (Nacionalista Party) on 9 November 1965. On 21 September 1972, Marcos imposed martial law and suspended the 1935 Constitution (amended in 1940 and 1946). On 17 January 1973, a new constitution was ratified making Marcos President and Prime Minister without a fixed term of office. The country's first election since martial law was declared, was held on 7 April 1978, and resulted in total victory for Marcos' New Society Movement.

For administrative purposes the country is divided into 68 provinces, 61 chartered cities, 1,433 municipalities and 21 municipal districts. Each province elects its own executive, comprising a Governor and a three-member Provincial Board. The municipalities are public corporations, each comprising a number of 'barrios'.

International Relations

The Republic of the Philippines is a member of the United Nations (U.N.) and its sister agencies : UNESCO, IAEA, ILO, FAO, WHO, ICAO, UPU, ITU, WMO, IFC, IMCO, and the Bank and Fund. She is also a member of the Colombo Plan and the Association of South East Asian Nations (ASEAN).

2. HISTORICAL BACKGROUND

1. EARLY HISTORY

Numerous examples of Chinese export ware, a Yuan Dynasty (1271-1368 A.D.) Celadon-ware jar,¹ and an Indian gold image of Garuda, all testify to the early importance of the Philippines archipelago as a trading centre on the sea-route between China and India. However, in contrast to her neighbours in Southeast Asia, the Philippines was little influenced by the interchanges and interactions between India and China.

2. COLONIAL HISTORY

The European discovery of the Philippines is traditionally credited to the Portuguese explorer and soldier of fortune, Ferdinand Magellan (c.1480-1521), who came upon the archipelago in 1521 A.D. while searching, on behalf of the Spanish, for an alternative route to the Moluccas from the Indian Ocean. However, the existence of the Philippines archipelago had been known to the Portuguese through their contacts with the Kingdom of Malacca (1402-1511 A.D.) since the fifteenth century. Magellan was killed within two months of his arrival in the archipelago and Portuguese influence lasted less than fifty years.

The Spanish conquest of the Philippines began in 1565 A.D. and was completed in 1580 A.D. when the last remaining pockets of Portuguese influence were eradicated by the annexation of Portugal by King Philip II of Spain. The twin centres of Spanish operations in the archipelago were the towns of Cebu and Manila. After the construction of Fort Santiago in 1571, Manila became the principal centre of Spanish operations, from whence went forth priests to convert the native population to Roman Catholicism. Islam, which was introduced by Moslem traders from Malacca during the fourteen and fifteenth centuries, was quickly supplanted in Luzon and the remainder of the main islands of the archipelago. Because of intense British and Dutch competition in the Moluccas, the Spanish were effectively confined to the Philippines and forced to supply the colony from their settlements in Central America and, later, California. Thus began the Philippines trans-Pacific association with

1. The term 'Celadon' is thought to be derived from the character of that name, who wore grey-green ribbons, in Honoré d'Urfé's pastoral 'L'Astrée', and is the European name applied to Chinese stoneware or porcelain having a grey to brownish body with an olive green glaze derived from iron oxide.

the New World that endures to the present day.

The Spanish ruled the Philippines archipelago for more than three hundred years, during which time they introduced religious, social, economic and political systems from Central America, most importantly, the system of land tenure, which reduced the subsistence farmers to the status of landless labourers and concentrated land ownership in the hands of individual land owners and religious institutions. The result was economic paralysis and social stagnation in rural areas which eventually resulted in the formation of land reform movements, such as the Katipunan ('Sons of the People') Movement. Throughout the 1890s, the Filipino land reform and independence movement gathered momentum, but the defeat of the Spanish in the Spanish-American War of 1898 resulted in the ceding of the Philippines archipelago to the United States of America on 10 December 1898. Political unrest continued for a further two years, however, and it was not until 1900 that the United States Congress was able to establish a civilian administration.

The Spanish system of land tenure, which created a proportion of landless peasant farmers unequalled in Southeast Asia, was maintained by the United States administration until 1935, when the Constitution, adopted on 14 May 1935, prohibited the expropriation of large estates by large corporations. A year earlier, President Roosevelt signed an Act of Congress to grant independence to the Philippines after a ten-year transitional period. By this time, English had replaced Spanish as the lingua franca, and a new educational system, based on the American high-school system had been introduced. Less than one hundred and fifty Americans remained in the administration, which was largely in the hands of the Filipinos.

3. MODERN HISTORY

From December 1941 until October 1944, the Philippines archipelago was occupied by the Japanese, and on 4 July 1946 the Republic of the Philippines came officially into existence. The widespread destruction that resulted from the Japanese defence of the archipelago presented the newly-independent administration of President Manuel Roxas with formidable problems of reconstruction, but over the last three decades the economy has been totally rebuilt with United States assistance.

3. CULTURAL HERITAGE

1. ARCHAEOLOGICAL

The Philippines Archipelago has traditionally been a link in the chain that joins the Chinese mainland with the Indonesian Archipelago since the neolithic period, and special efforts are being made to establish the history of the islands prior to their discovery by Ferdinand Magellan in 1521 A.D.

Prehistoric Sites

There is evidence that early man inhabited the islands of the Philippines Archipelago as early as c.25,000 B.C. At Lipuun Point in Palawan, a number of important finds have been made at the Tabon Cave complex: the fossilised remains of so-called 'Tabon Man', dated to c.22,000-24,000 B.C. by the Carbon-14 dating method; and the Manunggul jar, an earthenware burial jar, with incised and painted decoration about the shoulders and cover of the jar. The cover is topped by a boatman and passenger, representing the 'Ship of the Dead'. Both jar and cover have been dated to c.890-710 B.C. by the Carbon-14 dating method. Various other earthenware artifacts have been unearthed at the site, which has been designated as a national cultural treasure. The earliest known wall paintings in the Philippines Archipelago are situated at Angono in Luzon. They cover an area some 60 m long and 6 m in height and are painted directly onto the wall of a rock-shelter. This site has also been designated as a national cultural treasure. Other sites of note include: the stone calendars at Dep-ay Guiday, the petroglyphs at Alab, and the mummy caves at Sagada and Alab, in Bontoc; the mummy caves at Kabayan in Benguet; and the rice terraces at Ifugao in Banaue. All are designated as national cultural treasures.¹

Pre-Colonial Burial Sites

The tradition of burying Chinese ceramics (tradeware) with the dead was a widespread practice in the Philippines Archipelago prior to the Spanish colonisation of the islands from the early sixteenth century A.D. onwards. In consequence there are many burial sites scattered throughout the seven thousand islands that comprise the archipelago, many of which have been despoiled by 'treasure hunters' seeking examples of the much-collected

1. Peralta, J. 'Philippines', in 'Preservation of Cultural Heritage', ASPAC, Seoul, 1972, pp.155-157.

early Ming Dynasty (1368-1644 A.D.) Celadonware. At the Santa Ana Church in Manila, a 13th century A.D. graveyard has been excavated and preserved in situ, complete with skeletons and salvaged Chinese ceramics. The site has been designated as a national cultural treasure.¹

2. ARCHITECTURAL

The Philippines Archipelago alone in Southeast Asia was not greatly influenced by India or China, and none of the great religions of Asia (Hinduism, Buddhism, Confucianism and Islam) became well-established. In consequence, the Filipino folk tradition has continued to flourish, and there are no major monuments or sites comparable with those of the Indonesian Archipelago, Thailand or Kham-pouchea. The surviving architectural heritage of the Philippines Archipelago is entirely of Spanish origin.

Building Types

a) Forts and Citadels

Originally the city of Manila comprised only a citadel surrounded with a moat and outlying fortifications. At the centre of the citadel was the garrison headquarters, Fort Santiago, from which the Spanish exercised their authority over lowland, Central Luzon. Today, only Fort Santiago, and sections of the old walled city, 'Intramuros', survive as a result of the Japanese Occupation of 1942-45 A.D. and the Allied assault on Manila. Two other Spanish forts of note are Fort San Pedro in Cebu and Fort Pilar in Zamboanga. Both are similar in plan form to Fort Santiago but are smaller and more compact.

b) Walled Cemeteries

The most important example of a Spanish walled-cemetery is the Paco Cemetery at Manila (f. c.17th century A.D.). Elliptical on plan, with rows of niches cut into the enclosing wall and a central chapel, it has been greatly modified during the present century.

1. Morley, Dr. Grace. 'Museums in South, Southeast and East Asia : Survey and Report', ICOM Regional Agency in Asia, New Delhi, 1971, p.97.

c) Churches and Cathedrals

Many churches and cathedrals were erected during the Spanish colonial period, using local materials and labour. In general they are constructed of baked brick and lime stucco and are lavishly ornamented with carved stone door and window surrounds, and carved wooden polychrome sculpture. Examples of note include : Manila Cathedral; Santo Nino Cathedral and Convent, Cebu; Malate Church, Manila; San Sebastian Church, Manila; Paoay Church, Ilicos Norte; Bacarra Church, Ilicos Norte; Barasoain Church, Malolos, and San Augustin Church of Intramuros, Manila.

National Cultural Treasures

1. Paoay Church, Paoay, Ilicos Norte
2. Bacarra Church, Bacarra, Ilicos Norte.
3. San Augustin Church, Intramuros, Manila.
4. Angono Petroglyphs, Angono, Rizal.
5. Alab Burial Caves, Bo.Alab, Bontoc, Mt. Province.
6. Alab Petroglyphs, Bo.Alab, Bontoc, Mt. Province.
7. Sagada Burial Caves, Sagada, Mt. Province.
8. Stone Agriculture Calender, Bo.Gueday, Besao, Mt. Province.
9. Kabayan Mummy Caves, Kabayan, Benguet.
10. Ifugao Rice Terraces, Banaue, Ifugao.
11. Fort Pilar, Zamboanga City.
12. Sta. Ana Archaeological Site Museum, Sta. Ana, Manila.
13. Vigan Town Complex, Vigan, Ilicos Sur.
14. Bagulin Burial Cave, Bagulin, La Union.

National Shrines

1. Walls of Intramuros, Intramuros, Manila.
2. Aguinaldo Shrine, Kawit, Cavite.
3. Rizal Shrine, Calamba, Laguna.
4. Mabini Shrine, Talaga, Tanauan, Batangas.
5. Rizal Shrine, Dapitan City.
6. Mabini Shrine, Pandacan, Manila.
7. Kalantiaw Shrine, Batan, Aklan.
8. Casa Real Shrine, Malolos.
9. Lapu-Lapu Liberty Shrine, Mactan Island.
10. Aglipay National Shrine, Batac, Ilicos Norte.
11. Juan Luna National Shrine, Badoc, Ilicos Norte.
12. Pinaglabanan Memorial Shrine, San Juan, Metro Manila.
13. Tirad Pass National Shrine, Del Pilar, Ilicos Sur.
14. Ricarte National Shrine, Batac, Ilicos Norte.
15. Limasawa National Shrine, Southern Leyte.
16. Fort Santiago Rizal Shrine, Intramuros, Manila.
17. Quezon Memorial Monument, Quezon City.
18. Gomburza Monument, Intramuros, Manila.
19. Vinzons Historical Landmark, Pandacan, Manila.
20. Zamora Historical Landmark, Pandacan, Manila.
21. Miagao Church, Miagao, Iloilo.
22. Barasoain Church, Malolos, Bulacan.
23. Sto. Nino Church and Convent, Cebu City.
24. Sta. Maria Church, Sta. Maria, Ilicos Sur.
25. San Sebastian Church, Quaiipo, Manila.
26. Basilica of Taal, Taal, Batangas.
27. Malvar Historical Landmark, St. Tomas, Batangas.
28. Apacible Historical Landmark, Taal, Batangas.
29. Calamba Church Baptistry, Calamba, Laguna.

1. National Museum, Manila, August 1978.

Philippines National Inventory (cont.)

Site Museums/Reserves

1. Tabon Cave Complex and Lipuun Point, Quezon, Palawan.
2. Cagayan Valley and Kalinga-Apayao Archaeological Areas, Cagayan and Kalinga-Apayao Provinces.

Important Cultural Property

1. Dingras Church Ruins, Dingras, Ilicos Norte.
2. Magsingas Old Convent (Museum), Magsingal, Ilicos Sur.

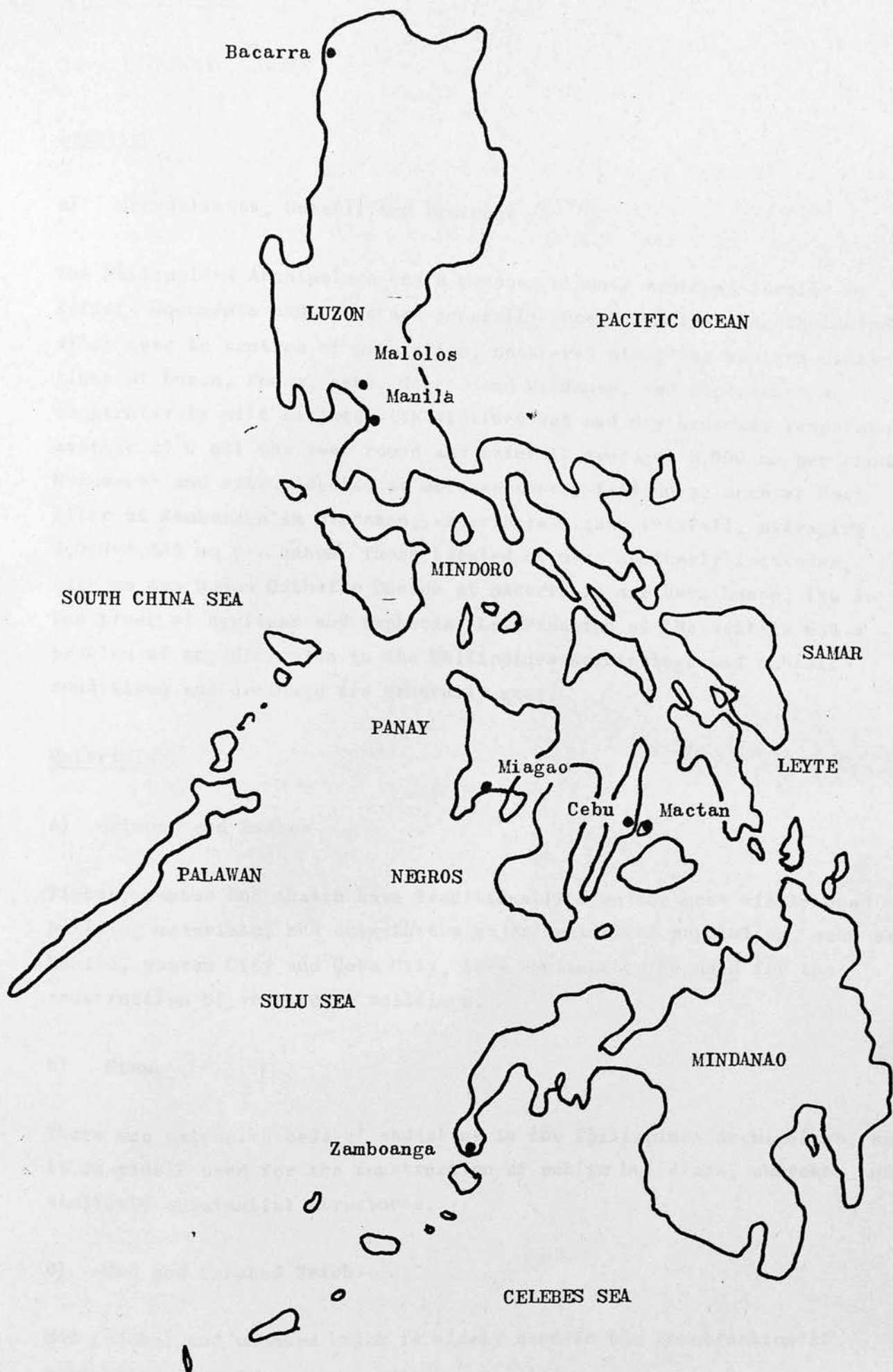


Fig.161 Philippines - Principal Historic Sites (1 : 6 million).

1. INTRINSIC CAUSES

Location

a) Microclimate, Subsoil and Drainage

The Philippines Archipelago has a monsoon climate modified locally by relief. Monuments and sites are generally located at lowland, sheltered sites near to centres of population, scattered along the western coastlines of Luzon, Panay, Cebu, Negros and Mindanao, and experience a comparatively mild climate with distinct wet and dry seasons. Temperatures average 27°C all the year round and rainfall averages 2,000 mm per annum. Monuments and sites located at more southerly latitudes, such as Fort Pilar at Zamboanga in Mindanao, experience higher rainfall, averaging 3,000-4,500 mm per annum. Those located at more northerly latitudes, such as the Roman Catholic Church at Bacarra in northern Luzon, lie in the track of cyclones and typhoons. Laterisation of the soil is not a problem of any dimension in the Philippines Archipelago and subsoil conditions and drainage are generally good.

Materials

a) Timber and Bamboo

Timber, bamboo and thatch have traditionally been the most widely used building materials, and outwith the major centres of population, such as Manila, Quezon City and Cebu City, they continue to be used for the construction of vernacular buildings.

b) Stone

There are extensive beds of sandstone in the Philippines Archipelago, and it is widely used for the construction of public buildings, churches and similarly substantial structures.

c) Mud and Unbaked Brick

Mud (adobe) and unbaked brick is widely used in the construction of vernacular structures.

Materials (cont.)

d) Baked brick and Terracotta

Baked brick has been widely used in the construction of public buildings, churches and similarly substantial structures. Usually they are laid in lime mortar and faced with lime stucco. Fireclay roof tiles are widely used.

e) Binding Materials

Lime mortar is the principal binding material used in the construction of both baked brick and stone structures.

f) Metal

Gold, silver and brass are used in the fabrication of church and cathedral furnishings. Iron is widely used in the fabrication of fastenings and fittings, including stone clamps, etc.

g) Stucco and Other Finishes

Lime stucco and, more recently, cement stucco are widely used to protect and ornament structures of both baked brick and stone.

h) Ornamentation

Apart from gold, silver and brass, carved, wooden polychrome statuary is used to ornament churches and cathedrals. Door and window surrounds are often elaborately carved and ornamental grilles cover windows.

i) Wall Paintings

There is no surviving tradition of wall painting in the Philippines Archipelago.

Construction

a) Substructure

Foundations are traditionally shallow and differential settlement is not an uncommon problem on clay soils subject to shrinkage during the dry season.

b) Superstructure

The majority of structures have load-bearing walls which support timber floors and roof. Larger structures, such as churches and cathedrals have vaulted roofs. The semi-circular headed arch is widely used in 17th and 18th century A.D. structures.

2. EXTRINSIC CAUSES

Actions of Man

a) Lack of Maintenance

Lack of maintenance is not a serious problem

b) Abandonment and Squatting

Abandonment and squatting are not serious problems. However, a number of rural churches have been abandoned since the withdrawal of the Spanish administration in 1898 A.D.

c) Robbery and Vandalism

The theft of carved, wooden polychrome statuary from abandoned churches and from those being restored is a serious problem. Regrettably little attention has been paid to their study and there is no appreciation of their significance. Whether manufactured locally or imported from such active centres of image production as the former Spanish colonies of Ecuador and Guatemala, they are much sought after by private collectors and are freely exported abroad. The finest date from the 17th century A.D. and are lavishly modelled and decorated. A small exhibition of these images is on display at the Santa Ana Church in Manila.¹

d) Alteration and Demolition

Alteration and demolition are increasing problems.

1. Morley, Dr. Grace. 'Protection of Cultural Property in Southeast Asia : Report and Recommendations', ICOM Regional Agency in Asia, New Delhi, 1973, p.8.

e) Faulty Restoration and Repair

Because of the almost total lack of trained conservators and architect-restorers in the Philippines Archipelago, faulty restoration and repair are widespread problems.

f) Unauthorised Excavations

Despite the legal prohibition of excavation without a permit in the Philippines Archipelago, 'treasure hunting' is widespread and considerable damage has been caused to numerous archaeological sites. In consequence, the National Museum has adopted an unwritten policy of not announcing the whereabouts of any site that it is currently excavating or the discovery of any artifacts of significance for the fear that collectors, antique dealers and others, will converge upon the site and destroy whatever information it contains. Burial sites are particularly affected by treasure-hunters seeking Chinese ceramics (tradeware), which bring high prices both at home and abroad. Many items are thought to be illicitly exported to Hong Kong and thence to Japan, the United States of America and Europe.^{1 2}

g) Customary Use

Customary use is not a serious problem.

h) Change of Use

Change of use is not a serious problem.

i) Urbanisation and Encroachment

Dramatic increases in the cost of renting residential and commercial premises in Hong Kong since 1973 and growing uncertainty about the colony's future, have prompted many international and multinational corporations to transfer their operational headquarters to Manila. The result of this has been increased investment and redevelopment, not all

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1. Salazar, L.A. 'The Current Status of Cultural Properties' Preservation in the Philippines', Paper presented to the ASPAC Conference on Conservation in the Philippines, 7-12 December 1972, p.7.
 2. Morley, Dr. Grace. Op.Cit. p.8.

Actions of Man (cont.)

of which is necessarily disadvantageous, Manila having been the most severely damaged city in Asia (Hiroshima and Nagasaki excluded) during the Second World War. Nonetheless the setting of Fort Santiago and the old walled citadel of Intramuros has been seriously affected.

j) Fire Damage

Fire damage is not a serious problem.

k) Pollution

Pollution is not a serious problem.

l) War Damage

As previously noted in sub-section (i), Manila was the most damaged city in Asia (Hiroshima and Nagasaki excluded) during the Second World War. Indeed, it suffered a degree of destruction second only to that of Warsaw, Fort Santiago and the old walled citadel of Intramuros being the site chosen by the Japanese to make their bitter, last-ditch defence of the city. For the next two decades the city was little more than a squatter settlement.

Occasional Actions of Nature

a) Earthquakes and Landslides

The Philippines Archipelago is situated in an area of extreme tectonic instability. Tremors of regional significance cause occasional damage.

b) Volcanic Activity

The Philippines is situated within the so called 'ring-of-fire', an area of extreme volcanic instability. Localised earth tremors and gaseous discharges are not uncommon.

c) Flooding

Rivers are short and fast flowing. Flooding is not a serious problem.

Occasional Actions of Nature (cont.)

d) Tsunamis

The Philippines Archipelago is situated within a high risk tsunami zone.

e) Typhoons and Cyclones

The Philippines Archipelago is situated within the track of cyclones and typhoons. The northern island of Luzon is the most badly affected area and wind-damage is widespread (June-September).

Prolonged Actions of Nature

a) Precipitation, Relative Humidity, Temperature and Wind

Precipitation, relative humidity and temperature are the three principal physical causes of decay (rising dampness, wet rot, corrosion, etc.) as previously noted in Section I : Intrinsic Causes of Decay. However, over a prolonged period other changes of a physico-chemical, micro-biological and biological nature also occur. The effects of these are noted in the following sub-sections (b) to (g). Because of the paucity of published material on the conservation of cultural property in the Philippines Archipelago they can be no more than generalisations. Physical erosion by windborne particulates is not a problem.

b) Fungi and Mold

Fungi and mold are not serious problems.

c) Moss and lichen

Moss and lichen are not serious problems.

d) Plants and Trees

Plants and trees flourish in the hot and wet conditions prevailing in the Philippines Archipelago and abandoned churches are particularly subject to damage and decay as a result of tree roots and water penetration.

Prolonged Actions of Nature (cont.)

e) Insects

Insect infestation is not a serious problem.

f) Birds and Bats

Nesting birds and bats are not serious problems.

h) Animals

Animals are not a serious problem.

FIG. 162 PHILIPPINES - CAUSES OF DECAY

INTRINSIC CAUSES	LOCATION	Microclimate	●
		Subsoil Conditions	●
		Drainage	●
	MATERIALS	Timber and Bamboo	
		Stone	●
		Mud and Unbaked Brick	
		Baked Brick and Terracotta	
		Binding Materials	
		Metal	
		Stucco and Other Finishes	●
		Ornamentation and Wall Painting	●
	CONSTRUCTION	Substructure	●
		Superstructure	
EXTRINSIC CAUSES	ACTIONS OF MAN	Lack of Maintenance	
		Abandonment and Squatting	
		Robbery and Vandalism	●
		Alteration and Demolition	●
		Faulty Restoration and Repair	●
		Unauthorised Excavations	●
		Customary Use	
		Change of Use	
		Urbanisation and Encroachment	●
		Fire Damage	
		Pollution	
		War	●
	OCCASIONAL ACTIONS OF NATURE	Earthquakes and Landslides	●
		Volcanic Activity	●
		Flooding	
		Tsunamis	
		Typhoons and Cyclones	●
	PROLONGED ACTIONS OF NATURE	Precipitation	●
		Relative Humidity	●
		Temperature	●
		Wind	
		Fungi and Mold	
		Moss and Lichen	
		Plants and Trees	●
		Insects	
		Birds and Bats	
		Animals	

1. HISTORICAL EVOLUTION OF GUIDING PRINCIPLES

Until comparatively recently, the conservation of the Filipino cultural heritage has been restricted to movable objects (zoological, botanical and mineralogical specimens; paleontological, ethnological and archaeological objects; and archives and documents) and prehistoric sites (Tabon Caves, Lipuum Point, Palawan). Spanish colonial structures, unless associated with national heroes, were largely neglected. The reasons for this were twofold : legislation and public opinion.

In November 1931, the United States-administered, Philippines Legislature promulgated Act No.3874, under section 1 of which the exportation of Filipino antiquities, such as coins, arms, tools, furniture, decorations, manuscripts and their separate parts, articles of adornment, stones with inscriptions or figures, agricultural implements, sculptures, carvings and other articles of art, industry and commerce, more than one hundred years old, was prohibited without the written authorisation of the Secretary of Agriculture and Natural Resources (under whose authority the National Museum had been placed under the provisions of earlier legislation, Act No.3477). Following the granting of full independence in 1945, the National Museum was designated as the repository of all cultural and scientific objects, and under section 3 of Act No.284 of 1947, it was charged with responsibility for :

'...the acquisition, organisation, preservation, administration and increase of Museum items which by reason of their archaeological, artistic or commemorative value should be permanently preserved as memento of and out of veneration for the great men of the country, as a testimony of the natural history and culture or for the benefit of culture in general...'

Under the provisions of Republic Act No.422 (the Reorganisation Law of 1951), implemented by Executive Order No.393, the National Museum was placed under the jurisdiction of the Department of Education, and the Secretary of Education became the designated authority in place of the former Secretary of Agriculture and Natural Resources.

In June 1966, the Republic Act No.4846 introduced the concept of 'cultural property' for the first time, which is defined under section 3(a) as :

'...old buildings, monuments, shrines, documents, and objects which may be classified as antiques, relics, or artifacts, landmarks, anthropological and historical sites, and specimens of natural history which are of cultural, historical, anthropological or scientific value and significance to the nation...'

The extension of protection to '...old buildings, monuments, shrines ...and historical sites...' under section 12 of the 1966 Act, was further extended by Presidential Decree No.374 of January 1974, which amended the 1966 Act and, for the first time under section 3(i), defined the term 'historical site' as :

'...any place, province, city, town and/or location which has played an important role in the history of our country and nation. Such significance and importance may be cultural, political, sociological or historical...'

The extension of protection from 'museum items' to 'old buildings, monuments, shrines and historical sites' took more than four decades - four decades during which the Filipino national consciousness of the significance of the Archipelago's cultural heritage of monuments and sites was patiently cultivated by the National Museum.

2. POLICY AND PROGRAMMES

National Cultural Policy

In common with many countries in Monsoon Asia, the conservation of the Filipino cultural heritage is seen as an important aspect of nation building and is enshrined in the nation's constitution. In both the 'old' constitution of 1935, as amended in 1940 and 1946, and the 'new' constitution of 1973, the state is committed to the support of arts and letters and provides for the preservation and development of Filipino culture as a means of enforcing national identity.

In order to carry out and effectively implement the provisions of the old constitution, a National Commission on Culture was established under the provision of Republic Act No.4165 of 4 August 1964, composed of a Commissioner and fourteen members drawn from the fields of : music, drama, painting, sculpture, literature, and the dance. Architecture

National Cultural Policy (cont.)

was subsequently added to the list of arts. The principal responsibilities of the Commission under the provisions of the 1964 Act are :

1. 'To establish an integrated and coordinated national policy on culture'; and
2. 'To awaken a new consciousness of, and define a new approach towards our own culture, by emphasising the search for knowledge of, and the growth of appreciation for, the genuinely creative rather than the merely imitative, as well as the native and indigenous, rather than, but not exclusively of, the imported or foreign elements and components of our material and artistic culture'.

In order to finance the operation of the Commission, five per cent of all amusement taxes were to be appropriated and directed thereto. The 1964 Act remained inoperative, however, until 1972. The declaration of martial law on 22 September 1972 did not result in the suspension or reversal of this policy. Instead, in the reorganisation of government that followed, the Commission was renamed and reformed as the Institute of Arts and Letters, the number of members being reduced from fourteen to seven in the process.¹

With regard to the conservation of immovable cultural property, the Republic Act No.4846 of 18 June 1966 made explicit the state's commitment and this was amplified by section 2 of Presidential Decree No.374 of 10 January 1974, which declares it to be the policy of the state '...to preserve and protect the important cultural properties and national cultural treasures of the nation and to safeguard their intrinsic value...'.¹

Conservation Programmes

Although the conservation of monuments and sites is a comparatively new field of endeavour in the Philippines, a number of monuments have been restored :

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1. UNESCO National Commission of the Philippines, 'Cultural Policy in the Philippines', UNESCO Studies and Documents on Cultural Policies, UNESCO, Paris, 1973, pp.13-15.

Conservation Programmes (cont.)

1. Intramuros, Manila - Old Manila was a walled citadel encircled with a moat and outlying fortifications accessible via several gateways. A major part of the complex was destroyed during the last-ditch defence of the city by the Japanese occupying forces in 1945, and subsequently it was taken over by squatters. Now the ruins have been cleared of miserable squatter huts and the gates and outer fortifications have been largely restored.
2. Fort Santiago, Intramuros, Manila; Fort San Pedro, Cebu; and Fort Pilar, Zamboanga - These Spanish fortifications are currently being restored by the Department of Tourism and Commerce as tourist attractions.
3. Paco Cemetery, Manila - A Spanish walled cemetery, elliptical on plan with a chapel and niches embedded in the walls. Restoration was confined to structural stabilisation and landscaping.
4. Churches - A number of ecclesiastical buildings have been restored throughout the archipelago, for example, the Manila Cathedral, Manila; the Santo Nino Cathedral, Cebu; the Morong Church, Rizal; and the Bamboo Organ of Las Pinas, Rizal.
5. Secular buildings - A number of houses of national heroes and other important personalities in Philippine history have been restored under this programme, including the Rizal Shrine at Calamba, and the Mabini Shrine at Pandacan, Manila.

The scarcity of trained architect-restorers and other specialist staff and limited financial resources, have combined to handicap the successful completion of the abovementioned works, which in many cases fall far below internationally accepted standards of workmanship.

Research Projects

In the field of archaeology, the major responsibility for research and excavation lies with the National Museum, Manila, and other state museums, and the numerous university departments of archaeology and anthropology. Current research projects include :

1. Early Man and Environment (National Museum);
2. Early Man in Southeast Asia (National Museum/Silliman University);
3. Archaeology of Negros Island (Silliman University);

Research Projects (cont.)

4. Patterns of Ethno-ecological Adoptions (University of the Philippines);
5. Southeast Asian Jar Burials, Proto-historic Maritime Trade and Peoples of Southeast Asia (University of San Carlos);
6. Cagayan Valley Excavations and La-Lo Excavations (National Museum);
7. Cave Excavations (Suleiman University); and
8. Samar Excavation Project and Southern Mindanao Excavations (University of Hawaii).

3. INTERNATIONAL TECHNICAL COOPERATION

International Government Agencies

The Republic of the Philippines is a Member State of the United Nations (UN) and its sister agency the United Nations Educational Scientific and Cultural Organisation (UNESCO), as well as the Southeast Asian Ministers of Education Organisation (SEAMEO), the Association of South East Asian Nations (ASEAN), and the Cultural and Social Centre for the Asian and Pacific Region (ASPAC).

Under the provisions of the SEAMEO Project in Archaeology and Fine Arts (SPAFA), the Republic of the Philippines is collaborating in the provision of regional training facilities through the creation of a SPAFA Sub-Centre for Prehistory at the University of the Philippines.¹

International Non-Government Agencies

The Republic of the Philippines has had a national committee for the International Council for Museums (ICOM) for many years. However, there are no plans to establish a national committee for the International Council on Monuments and Sites (ICOMOS).

Private Foundations

The Ford Foundation has provided considerable financial support through

1. SEAMEO, 'Proposed Development Plan for SEAMEO Project in Archaeology and Fine Arts', SEAMES, Bangkok, July 1976, pp.23-25.

its Art and Archaeology Programme. Grants have been made to the following institutions :

1. Council of Living Traditions and Educational Division of the National Museum, Manila - to enable curators of newly-established provincial museums to attend workshops on basics of museum management, and to establish a publication programme; and
2. Silliman University, Dumaguete City - to purchase and/or subscribe to research materials in archaeology and anthropology.

Individual grants have also been awarded to individuals to enable them to attend seminars in the region. One student has been sent to Turkey to attend the two-year, conservation course at the Middle Eastern Technical University.¹

1. Lyons, E. 'A Survey of the Art and Archaeology DAP Southeast Asia' (Confidential memorandum reviewing the October 1974-September 1976 period of support), The Ford Foundation, February 1977, Bangkok, pp. 1-7, and Addendum (1 October 1976-30 September 1978), p.2.

1. LEGISLATION

Until 1966 legislative protection was restricted to movable items such as coins, arms, tools, furniture, decorations and manuscripts in the Philippines. The enactment of the Cultural Properties Preservation and Protection Act, No.4846 on 18 June 1966 extended legislative protection to 'cultural properties' such as old buildings, monuments, shrines, landmarks, anthropological and historical sites, and other immovable items for the first time.

One of the recommendations of the International Council of Museums (ICOM) Meeting of Experts on the Protection of Cultural Property in Southeast Asia, held at Malacca, Malaysia, on 12-13 December 1972, was :

'...that museums in Southeast Asia adopt a uniform system of classification and documentation of their property, following in general the Japanese Law No.214 of May 30, 1950, classifying tangible cultural property according to four categories -

- a) National treasure;
- b) Very important cultural property;
- c) Important cultural property;
- d) Registered cultural property -

and that this system be followed by museums to facilitate the dissemination of information on cultural property in order that countries in this region may co-operate to protect the cultural heritage of Southeast Asia...'

On the recommendation of the National Museum, Manila, the 1966 Act, No.4846, was amended by Presidential Decree No.347 of 10 January 1974, to define explicitly, national cultural treasures and important cultural properties that have scientific and cultural value to the nation, in accordance with the ICOM recommendation of 1972.¹ As an interim protection, Presidential Decree No.260 of 1 August 1973 designated certain well known monuments and sites as 'protected' against unauthorised changes or encroachments.²

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- 1. ICOM Regional Agency in Asia, 'Protection of Cultural Property in Southeast Asia : Report and Recommendations', New Delhi, August 1973.
 - 2. ICOM Regional Agency in Asia, '1974 Supplement to Survey and Report, 1971', New Delhi, May, 1974, p.37.

Definitions

Under section 3(a) of the Republic Act No.4846 of 1966, as amended by Presidential Decree No.347 of 10 January 1974, 'cultural properties' are defined as :

'...old buildings, monuments, shrines, documents, and objects which may be classified as antiques, relics, or artifacts, landmarks, anthropological and historical sites, and specimens of natural history which are of cultural, historical, anthropological or scientific value and significance to the nation; such as physical, anthropological, archaeological, archaeological and ethnographical materials, meteorites and tektites; historical objects and manuscripts; household and agricultural implements; decorative articles or personal adornment; works of art such as paintings, sculptures, carvings, jewellery, music, architecture, sketches, drawings, or illustrations in part or in whole; works of industrial and commercial art such as furniture, pottery, ceramics, wrought iron, gold, bronze, silver, wood or other heraldic items, metals, coins, medals, badges, insignias, coats of arms, crests, flags, arms and armour; vehicles or ships or boats, in part or in whole....'

Cultural properties which have been singled out from among the innumerable cultural properties as having '...exceptional historical and cultural significance to the Philippines...', but which are not sufficiently outstanding to merit the classification 'national cultural treasures', are classified as 'important cultural properties'.

Under section 3(c) of the 1966 Act, a 'national cultural treasure' is defined as :

'...a unique object found locally, possessing outstanding historical, cultural, artistic and/or scientific value, which is important and significant to this country and nation....'

Under section 3(d) of the 1966 Act, 'antiques' are defined as :

'...cultural properties found locally which are one hundred years or more in age or even less, but their production having ceased, they have, therefore, become or are becoming rare....'

Under section 3(e) of the 1966 Act, 'relics' are defined as :

'...cultural properties which, either as a whole or in fragments, are left behind after the destruction or decay of the rest of its parts and which are intimately associated with important beliefs, practices, customs and traditions, periods and personages....'

Definitions (cont.)

Under section 3(f) of the 1966 Act, 'artifacts' are defined as :

'...articles which are products of human skills or workmanship, especially in the simple product of primitive arts or industry representing past eras or periods...'

Under section 3(i) of the 1966 Act, a 'historical site' is defined as :

'...any place, province, city, town and/or any location and structure which has played a significant and important role in the history of our country and nation. Such significance and importance may be cultural, political, sociological or historical...'

Under section 3(j) of the 1966 Act, an 'archaeological site' is defined as :

'...any place which may be underground or on the surface, underwater, or at sea level, which contains fossils, artifacts or other cultural, geological, botanical, zoological materials which depict and document evidence of palaeontological and pre-historic events...'

For the purposes of the 1966 Act, 'government property' covers all lands and marine areas including those covered by licences or special permits and those owned or administered by government-owned or controlled corporations, institutions or agencies.

Registration of Cultural Property

Under section 5 of the 1966 Act, the Director of the National Museum, hereinafter referred to as the Director, is empowered to undertake a census of the important cultural properties of the Philippines, keep a record of their ownership, location and condition, and maintain an up-to-date register of the same. Private collectors and owners of important cultural properties, and public and private schools in possession of such items are required to register their collections with the National Museum when required so to do by the Director, and to report any new acquisitions, sales or transfers thereof.

Classification of Cultural Properties

Under section 6 of the 1966 Act, the Director is empowered to convene panels of experts, as often as the need may arise, each to be composed of three competent men drawn from the specialised fields of anthropology, natural sciences, history and archives, fine arts, philately and numismatics, and shrines and monuments, etc. After careful study and deliberation, each panel decides which, among the cultural properties in their field of specialisation, shall be designated as 'national cultural treasures' or 'important cultural properties'. Within ten days of such action by a panel, the Director must transmit and advertise in at least two generally circulated newspapers, the decision of the said panel. The same procedure is followed in the declassification of important cultural properties and national cultural treasures.

Designation of National Cultural Treasures

Under section 7 of the 1966 Act, the undernoted procedure must be observed when a particular cultural property is designated as a national cultural treasure :

- 'a) Before the actual designation, the owner, if the property is privately owned, shall be notified at least fifteen days prior to the intended designation, and he shall be invited to attend the deliberation and given a chance to be heard. Failure on the part of the owner to attend the deliberation shall not bar the panel to render its decision. Decision shall be given by the panel within a week after its deliberation. In the event that the owner desires to seek reconsideration of the designation made by the panel, he may do so within thirty days from the date that the decision has been rendered. If no request for reconsideration is filed after this period, the designation is then considered final and executory. Any request for reconsideration filed within thirty days and subsequently again denied by the panel, may be further appealed to another panel chairmanned by the Secretary of Education, with two experts as members appointed by the Secretary of Education. Their decision shall be final and binding.
- b) Within each kind or class of objects, only the rare and unique objects may be designated as 'national cultural treasures'. The remainder, if any, shall be treated as cultural property.
- c) Designated 'national cultural treasures' shall be marked, described and photographed by the National Museum. The owner retains possession of the same but the Museum shall keep

Designation of National Cultural Treasures (cont.)

a record containing such information as : name of article, owner, period, source, location, condition, description, photograph, identifying mark, approximate value, and other pertinent data.'

Transfer of Ownership of National Cultural Treasures

Under section 8 of the 1966 Act, the transfer of ownership of a national cultural treasure may only take place by inheritance or sale approved by the Director of the National Museum, without prior notification having been given to and notation made by the Museum in the register. A national cultural treasure may not, however, be exported from the Philippines for reasons of inheritance and, where there is no heir, it reverts automatically to the National Museum or to any other state museum so designated.

Export of National Cultural Treasures

Under section 9 of the 1966 Act, no national cultural treasure may be taken out of the Philippines without written permission from the Director of the National Museum and only for the purpose of scientific scrutiny or under the auspices of an exchange programme.

Import and Export of Cultural Properties

Under sections 10 and 11 of the 1966 Act, it is unlawful to export or cause to be taken out of the Philippines any cultural properties defined as such under section 3 of the Act, without the item or items in question having been registered with the National Museum and written permission of the Director. No cultural property may be imported into the Philippines without an official certification of exportation from the country of origin.

Excavations

Under section 12 of the 1966 Act, it is unlawful '...to explore, excavate or make diggings on archaeological or historical sites for the purpose of obtaining materials of cultural or historical value...' without the written authority of the Director of the National Museum. No excavation or diggings may be undertaken without the supervision of an archaeologist

Excavations (cont.)

certified as such by the Director of the National Museum, or such other person who, in the opinion of the Director, is competent to supervise the works. Upon completion, a catalogue of all the unearthed material, together with a description of their archaeological context in accordance with internationally accepted practices must be submitted to the Director. In the event of buried cultural property being unearthed, the excavation must be suspended and the discovery reported to the Director of the National Museum who is empowered to take steps to ensure the proper and safe removal thereof, with the knowledge and approval of the owner. Excavation, exploration and diggings on government and private property may only be undertaken by the National Museum and any institution authorised in writing by the Director.

Restoration, Reconstruction and Preservation of National Cultural Properties and Important Cultural Properties.

Under section 13 of the 1966 Act, all restoration, reconstruction and preservation works to government owned historical buildings, shrines, landmarks, buildings and sites, which have been designated as national cultural treasures and important cultural properties, may only be undertaken with the written permission of the Director of the National Museum, and who is empowered to designate the supervision thereof.¹

Powers to Make Rules

Under section 13 of the 1966 Act, the Director of the National Museum is empowered to make rules and regulations for the implementation of the said Act, subject to the approval of the Secretary of Education.

1. Prior to amendment by Presidential Decree No.374 of 10 January 1974, the Director of the National Museum was empowered to establish a 'working arrangement' with ecclesiastical authorities responsible for the administration of church properties and with owners of privately owned historical buildings, shrines, landmarks, monuments and sites, with a view to preserving their original design and artistic values. Furthermore, the renaming of these said historical buildings, etc., was only to be done with the advice of the Director and with the concurrence of the Director of the National Library. Bearing in mind the importance of the nation's heritage of colonial Spanish church buildings dating from the late sixteenth century onwards, it is surprising that this particular section of the original 1966 Act was repealed.

Penalties

Under section 20 of the 1966 Act, any person violating the provisions of the said Act may, upon conviction, be fined not more than ten thousand Pesos or imprisoned for a term of not more than two years or both, at the discretion of the court. Objects or materials attempted to be concealed from registration, or those intended to be exported in violation of the said Act, are subject to confiscation and forfeiture by the Government of the Republic of the Philippines.

2. ADMINISTRATION

Under section 4 of the 1966 Act, as amended by Presidential Decree No.374 of 10 January 1974, the government agency responsible for implementing the provisions of the said Act is the National Museum, Manila. In order to ensure the proper enforcement of the said Act, a specialist division of cultural properties, with police powers, was established under section 21 of the said Act.

National Museum, Manila

The National Museum was founded in 1901 as the Insular Museum of Ethnology, Natural History and Commerce, under the jurisdiction of the Department of Public Instruction. Throughout the years the museum's scope and authority have increased. In 1947 the National Museum took its present form and in 1951 it was placed under the jurisdiction of the Department of Education. Today the museum is under the jurisdiction of the Department of Education and Culture.¹

The general objectives of the National Museum are :

'...to conduct basic researches in the natural and social sciences, to preserve and study natural history and cultural properties of the nation, to spread the knowledge on these subjects to schools and the community, to study the peoples of the Philippines, both of the present and the past, and to protect the national cultural heritage....' 2

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1. Morley, Dr. Grace. 'Museums in South, Southeast and East Asia', ICOM Regional Agency in Asia, New Delhi, July 1971, pp.96-99.
 2. SEAMEO, 'Report of the SPAFA Task Force', SEAMES, Bangkok, July 1976, pp.13-20.

National Museum, Manila (cont.)

There are twelve divisions, each of which is headed by a Chief of Division, within the National Museum :

1. Administration;
2. Library;
3. Museum Education;
4. Planetarium;
5. Botany;
6. Zoology;
7. Geology and Palaeontology;
8. Anthropology;
9. Arts;
10. Archaeological Sites and Regional Museums;
11. Cultural Properties; and
12. Restoration.

The Division of Anthropology is concerned with the research, collection, maintenance, display and publication of Filipino and Southeast Asian ethnological, archaeological and physical anthropological materials and data.

The Division of Archaeological Sites and Regional Museums is concerned with the supervision and maintenance of the Santa Ana Site and Liturgical Museum and the Fort Santiago History Museum, as well as the undernoted site museums :

1. Nayong Filipino Kalaw Museum;
2. Tabon Caves Museum;
3. Bolinao Museum;
4. Cagayan Valley Museum; and
5. Binan Museum.

The Santa Ana Site and Liturgical Museum features an exhibition of seventeenth and eighteenth century polychrome religious images, many of which are thought to be of local manufacture.¹

The Division of Cultural Properties is concerned with the proper implementation of the 1966 Act, as amended by the Presidential Decree No.374 of 10 January 1974, ie. research and documentation; licensing; compilation of the national inventory and registration of important cultural properties, law enforcement; and supervision of restoration, reconstruction and

1. Morley, Dr. Grace. Op.Cit.
2. Dating largely from the 16-19th century colonial period.

preservation of national cultural treasures and important cultural properties. It is not, however, directly concerned with the restoration, reconstruction and preservation of the said national cultural treasures and important cultural properties - having neither the qualified staff nor the necessary financial and technical resources. Such works are undertaken by various government agencies, religious institutions, foundations, and private individuals.

National Historical Commission

The National Historical Commission concerns itself with the recording and organising of historical events based on hitherto unknown records and chronicles dating from the Chinese, Spanish, British, American and contemporary periods. As organised until 1972, the Commission was composed largely of noted historians, the directors of the National Library, National Archives and National Museum being ex-officio members, and employed a number of researchers and translators. It maintained the reconstructed Rizal House at Colamba, Laguna; the Rizal Shrine at Dapitan; the Rizaliana Museum at Fort Santiago, Manila; and the Mabini Shrines at Manila and Tanauan, Batangas. It also directed the restoration, reconstruction and preservation of several national monuments, such as the wells of Intramuros, in collaboration with the Research Foundation in Philippine Anthropology and Archaeology, and the Manila City Government. It was also responsible for all national monuments and the provision of historical markers for important historical monuments and sites.¹

Since 1972, when Martial Law was first declared, the Commission has continued to function and, under section 2 of the Presidential Decree No.260 of 1 August 1973, it is specifically charged with responsibility for '...the supervision and control...' of the Barasoain Church in Malolos, Bulacan; Tirad Pass in Cervantes, Ilocos Sur; the Miagao Church in Miagao, Iloilo; the Site of the Battle of Mactan on Mactan Island, Cebu; the San Sebastian Church in Quiapo, Manila; and the Church and Convent of Santo Nino in Cebu City; all of which were declared to be National Shrines, Monuments and/or Landmarks under the provisions of the said Decree.²

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1. ASPAC, 'Proceedings of the ASPAC Experts Meeting on Preservation of Cultural Heritage', ASPAC, Seoul, Republic of Korea, 1972, pp.91-99.
 2. Presidential Decree No.260, Manila, 1 August 1973.

Conservation-Related Government Agencies

There are many agencies and institutions of government which collaborate with both the National Museum and the National Historical Commission in the performance of their duties with regard to research and documentation; exploration and excavation; restoration, reconstruction and preservation; and promotion of the Filipino heritage of monuments and sites :

1. Archaeology :

- a) Department of Anthropology,
University of the Philippines;
- b) Department of Sociology and Anthropology,
University of Ateneo de Manila;
- c) Department of Anthropology,
Mindanao State University;
- d) Department of Anthropology,
San Carlos University;
- e) Research Foundation in Philippine
Anthropology and Archaeology;
- f) National Archives; and
- g) National Library.

2. Art and Architecture :

- a) Institute of Arts and Letters (former National
Commission on Culture);
- b) Council for Living Traditions;
- c) National Cottage Industries Development Authority
(NACIDA);
- d) Art Association of the Philippines;
- e) College of Fine Arts,
University of Santo Tomas;
- f) College of Fine Arts and Architecture,
University of the Philippines;
- g) National Archives; and
- h) National Library.

3. Tourism :

- a) Department of Commerce and Tourism.

Non-Government Conservation Agencies

As previously mentioned, religious institutions play an important part in the restoration, reconstruction and preservation of the Filipino heritage, particularly in colonial Spanish cathedrals and small local churches. Secular bodies also contribute, the most important being the Historical Conservation Society.

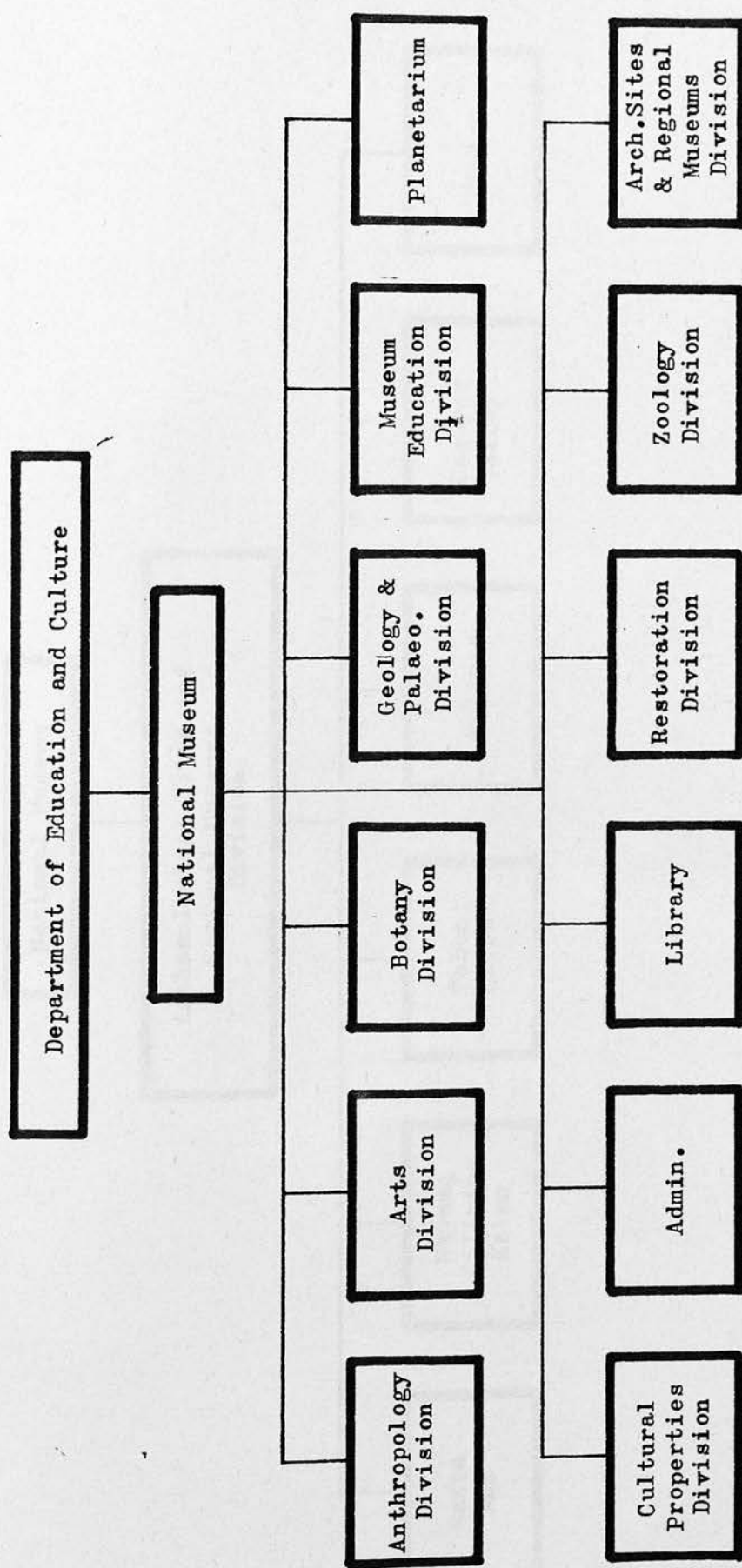


Fig.163 Philippines - National Museum, Manila.

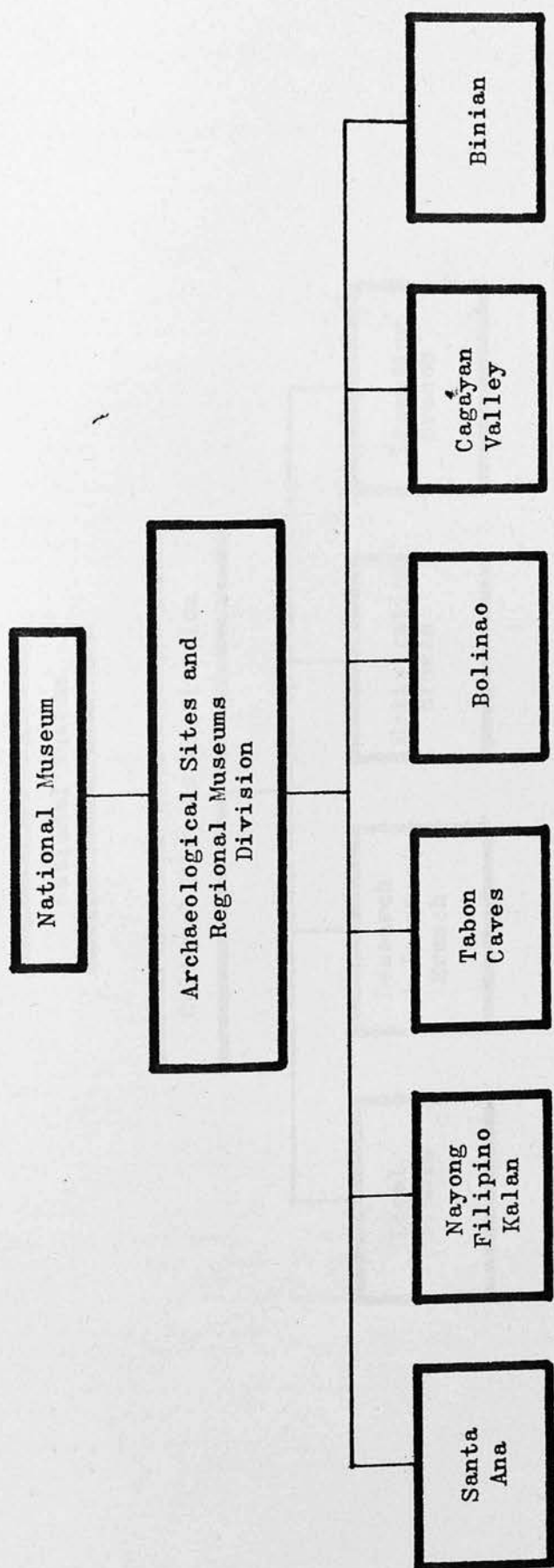


Fig.164 Philippines - Archaeological Sites and Regional Museums Division, National Museum, Manila.

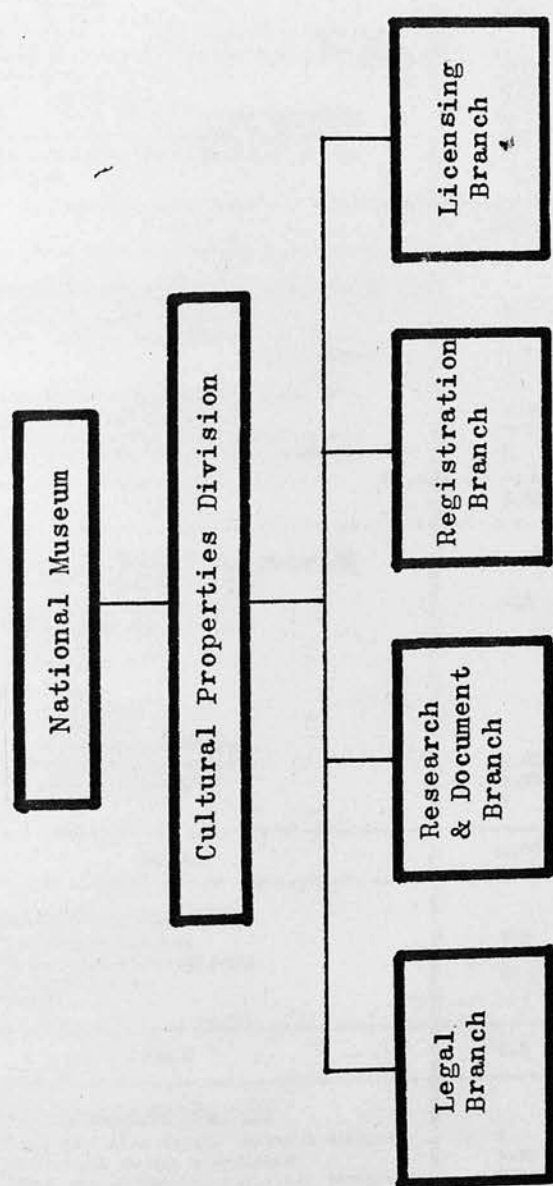


Fig. 165 Philippines - Cultural Properties Division, National Museum, Manila.

ARCHAEOLOGICAL STAFF CLASSIFICATION	STAFF AND EMPLOYMENT DATA		
	(1) Present Staff	(2) Additional Staff needed now	(3)* Additional Staff needed in 3 yrs.
<u>Professional Staff</u>			
1. Administrators/Managers	2.01	3.05	5.5
2. Historians	0	1	0
3. Archaeologists	8.2	13	17
4. Philologists, Epigraphists & Linguists	2	1	0
5. Ethnologists & Cultural Anthropologists	11.2	6	13
6. Museologists/Curators	3.53	3.5	8
7.8.9. Librarians	2.83	4.5	4.5
10. Architects of Historical Monuments	3	5	8
11. Excavation/Restoration Technicians	3.33	5	17
12. Monument/Object Dating Specialists	2	2	7.5
13. Others	1.33	3	3
TOTAL	39.43	47.05	80.5
<u>Monument Excavation/Restoration/Conservation</u>			
1. Excavation Specialists	2.5	3	8
2. Restoration Specialists: a. Stone	0	4	5
b. Masonry	0.1	4.5	5
c. Wood	0.1	6.5	9
3. Monuments Conservation Specialists	1	4	9
4. Draftmen & Topographers	3.33	11.5	15
5. Photographers & Photo-Interpreters	1.1	5.5	9
6. Other Specialists such as engineers, etc	0	3	4
TOTAL	8.13	42	64
<u>Cultural Property/Skeletal Excavation and Restoration/Conservation</u>			
1. Excavation Specialists	4.6	1.25	3
2. Restoration Specialists:			
a. Stone		2	4
b. Metal		2	4
c. Wood		2	4
d. Skeletons		2	4
e. Textiles		2	4
f. Documents, Paintings		2	4
g. Pottery & Ceramics	2.25	7	12
3. Draftmen & Artists	4.33	11	15
4. Others	1		
TOTAL	12.18	31.25	54
<u>Internal Supporting Staff</u>			
1. Exhibition Experts	4.5	6.5	10
2. Public Relations Experts		3	3
3. Trained Guides	4	17	16
4. Others			
TOTAL	8.5	26.5	29
<u>Outside Specialists Resources</u>			
1. Geographical & Aerial Survey & Analysis	1	3	7
2. Geological Survey & Analysis	1.25	4.5	10
3. Public Works Specialists (lab. technician draftsmen etc.)	0.33	2	5
4. Climatological Survey Experts	1	0	2.5
5. Archaeological Legislation Experts	1.1	2.25	
6. Others			
TOTAL	4.68	11.75	24.50

1. ARCAFA Project Development Office (APDO), 'Report of Task Force on Manpower in Archaeology in the SEAMEO Region', SEAMEO, Phnom Penh, October 1973 (Table 5).

3. FINANCE

Government Finance

As the principal archaeological research institution and conservation agency in the Philippines, the National Museum has been the object of special government concern since 1972 when the President and Madame Marcos inaugurated the new National Museum galleries in the former Department of Agriculture Building, Manila.¹

From 1966 to 1974, the sum of 50,000 Pesos per annum was granted by the National Treasury to the National Museum for the proper enforcement of the Republic Act No.4846. This sum was increased to 100,000 Pesos per annum in 1974 under section 22 of Presidential Decree No.374 of 10 January 1974. An additional 500,000 Pesos per annum were granted to the National Museum under section 3 of Presidential Decree No.260 of 1 August 1973 for the supervision and control of national cultural treasures declared under section 1 of the said decree. To both these sums must be added the sum of 520,000 Pesos per annum, which is the annual programme budget of the National Museum. Regular funding remains inadequate, however, to finance research and excavations, hire specialist staff and purchase equipment, and in the 1971/72 fiscal year an additional one million Pesos worth of equipment was grant-aided to the National Museum by the Philippine Government from Japanese payments channelled through the Reparations Commission.²

The sum of 500,000 Pesos per annum was granted to the National Historical Commission under section 3 of Presidential Decree No.260 of 1 August 1973 for the supervision and control of national shrines, monuments and/or landmarks declared under section 1 of the said decree.

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1. The former National Museum building was severely damaged during the Second World War and the collections were rehoused in two widely separated and inadequate buildings.
 2. This equipments consisted of : vehicles, electric motors, pumps, outboard motors and compressors; microscopes, field glasses and lenses; still and movie cameras and projectors; sound recording equipment; diving, collecting and camping equipment; temperature and humidity control devices; surveying and drawing equipment; and miscellaneous laboratory equipment (scales, ovens, driers, etc.).

Non-Government Finance

In recent years, the National Museum has sought and received sizeable sums in grant-aid for specific research projects from the undernoted sources :

1. J.D. Rockefeller III Fund;
2. Asia Foundation;
3. National Geographic Society;
4. U.S. Army Research and Development Group; and
5. Ford Foundation.

Private Finance

Under section 13 of the 1966 Act, as amended by section 14 of Presidential Decree No.374 of 10 January 1974, '...any donation or support by private individuals or institutions to the National Museum, and any investment for the purchase of cultural properties registered with the National Museum or for the support of scientific and cultural expeditions or excavations, when so certified by the Director of the National Museum...', is tax exempt and deductible from the income tax return of the individual or institution concerned. Furthermore, '...donations of national cultural treasures and important cultural properties to the National Museum or any accredited institution for preservation for Posterity, or of any monetary contribution to the National Museum or any accredited institution for the purchase of national cultural treasures and important cultural properties...', is also tax deductible from income tax returns - provided that such donations are duly acknowledged and receipted by the recipient and certified by the Director of the National Museum.

The Historical Conservation Society, founded c.1960 by Sen. Alfonso Felix with the intention of restoring the nineteenth century church of Morong at Rizal, began with just six members each of whom contributed one hundred Pesos. When challenged to match this contribution, the local residents raised more than ten thousand Pesos, enabling the church to be restored in 1961. Between 1961 and 1972 a further eight churches were restored as a result of fund-raising activities by the Society.¹

1. Salazar, Lucila Atacador. 'The Present Status of Cultural Properties Preservation in the Philippines', ASPAC Conference on Preservation of Cultural Property, New Delhi, 7-12 February, 1972.

5. EDUCATION AND TRAINING

The Philippines educational system is closely modelled upon that of the United States of America. After graduation from high school the student normally pursues a general arts and sciences programme at college before transferring to a specialist course. Four years of study is required for the degree of Bachelor of Arts (B.A.) and a further two years of study, thesis and defence, is required for the degree of Master of Arts (M.A.). The degree of Doctor of Philosophy (Ph.D) is only available at the University of San Carlos. Courses in archaeology are offered by the following institutions :

1. Department of Anthropology,
University of the Philippines (in collaboration with
the National Museum, Manila);
2. Department of Sociology and Anthropology,
University of Ateneo de Manila;
3. Department of Anthropology,
Mindanao State University;
4. Department of Anthropology,
San Carlos University (in collaboration with the
National Museum, Manila);
5. Research Foundation in Philippine Anthropology
and Archaeology Inc. Manila; and
6. Department of Anthropology,
Silliman University,
Dumaguete City.

Courses in architecture and fine art are offered by the following institutions :

1. College of Fine Arts,
University of Santo Tomas; and
2. College of Fine Arts and Architecture,
University of the Philippines.

Before sitting their examinations for certification as architects by the State Board, all architecture graduates are required to complete a two-year apprenticeship. Because of the lack of post-graduate training facilities in restoration, only three of the estimated three thousand registered architects in the Republic of the Philippines, are qualified architect-restorers.

Training Abroad

Because of the lack of post-graduate training facilities in the fields of museology and restoration of monuments, students and technicians are forced to seek further instruction abroad. The United States of America, Spain and Turkey are countries recently chosen by students for further instruction. However, as the SEAMEO Project in Archaeology and Fine Arts (SPAFA) gradually develops, so it is hoped that more students may be trained within Southeast Asia.

1. MONSOON ASIAN SETTING

1. KEY FACTS

Area	:	587.6 sq. km.
Capital City	:	Singapore City (pop. 2 million).
Land Use	:	13.2% cultivated, 5.5% forest.
Population	:	2,278,198 (44.6% below 21).
Growth Rate	:	1.4% per annum.
Density	:	Over 4,000 per sq. km.
Life Expectancy	:	65 males, 70 females.
Per Capita GNP	:	US2,240 dlrs. (1974).
System of Government	:	Independent Parliamentary Republic.

2. PHYSICAL SETTING

Situation

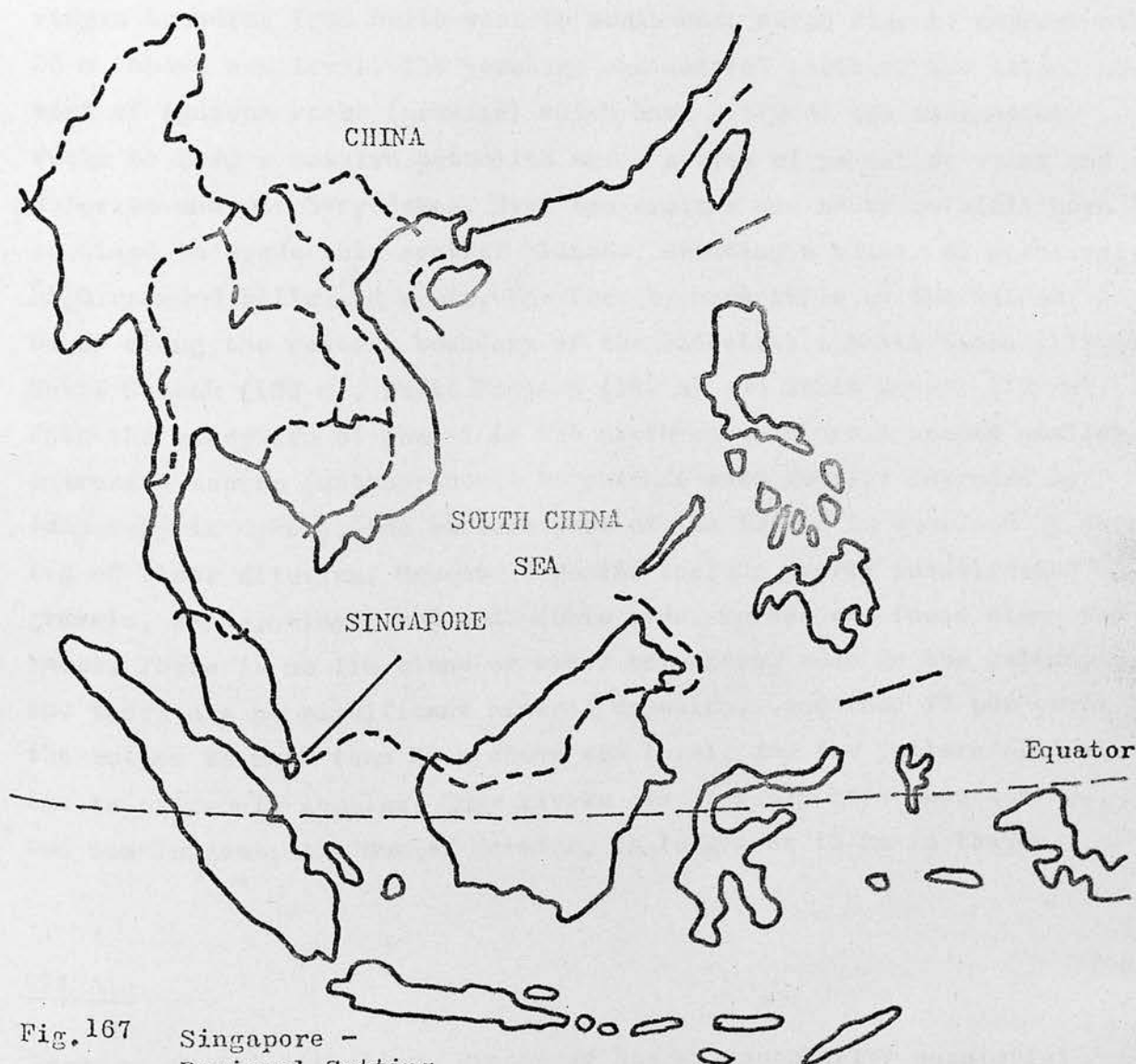


Fig. 167 Singapore -
Regional Setting
1 : 30 million.

Situation (cont.)

The Republic of Singapore, which comprises the island of Singapore itself and fifty-four smaller islands within its territorial waters, is situated between latitudes $1^{\circ} 09'N$ and $1^{\circ} 29'N$ and longitudes $103^{\circ} 38'E$ and $104^{\circ} 06'E$, less than 150 km. from the Equator. The island of Singapore itself is lozenged-shaped, measuring approximately 41 km. from east to west, and 22 km. from north to south, and it is separated from the southern tip of the Malay Peninsula by the narrow Johore Strait. A short causeway, which carries road and rail traffic as well as Singapore's main water supply, links the island with the mainland.

Geology, Relief and Drainage

Singapore can be divided into three distinct geological areas. The western and southern parts of the island consist of complex folded and faulted sedimentary rocks (quartzite, shale and schist) overlaid by sand and clay. The landscape of the area is dominated by a series of parallel ridges trending from north-west to south-east which rise to approximately 35 m above sea level. The northern and central parts of the island consist of igneous rocks (granite) which have intruded the sedimentary rocks to form a massive batholith and a series of pegmatite veins and dolerite and porphyry dykes. High temperature and heavy rainfall have combined to erode this central plateau, creating a number of relatively high rounded hills and spurs. The four highest hills on the island occur along the western boundary of the batholith: Bukit Timah (177 m), Bukit Gombak (133 m), Bukit Panjang (132 m) and Bukit Mandai (129 m). With the exception of Changi in the north-east, where a second smaller intrusion occurs (metamorphosed hornblende soda granite intruded by lamprophyric dykes), the eastern part of the island is overlaid by deposits of Older Alluvium. Recent deposits include poorly consolidated gravels, sands, clays, mud and pebble beds. Corals are found along the coast. There is no limestone or other calcareous rock on the island, and there are no significant mineral deposits. Less than 10 per cent. of the island is more than 30 m above sea level, and the pattern of drainage is extremely complex. Many rivers are scarcely more than streams, and the longest, the Sungai Seletar, is less than 15 km in length.

Climate

Because of its situation, Singapore has an essentially equatorial

climate with high temperatures and relative humidity all the year round, with little variation in mean monthly temperature, and evenly distributed rainfall, often of a convectional nature. Because of the modifying influence of the sea, the average daytime maximum temperature is only 30.6°C , which drops to an average minimum of 24°C at night. Mean monthly temperatures vary from 25.5°C in December and January (the coldest months), to 27.2°C in June and July (the warmest months). Relative humidity, which often exceeds 95 per cent. just before dawn, and about 65 per cent. on dry afternoons, averages 82-86 per cent. all the year round. Total mean annual precipitation is approximately 2,500 mm. Although there is no distinct wet or dry season as such, precipitation does tend to be heaviest during the first half of the north-east monsoon (October to March). July is the driest month, the total mean monthly precipitation averaging 162.5 mm. Because of the protection afforded to Singapore by the Indonesian island of Sumatra, the full effect of the south-west monsoon (June to September) is rarely felt. However, violent south-westerly squalls, often accompanied by thunderstorms, do occur from May to October. Known locally as 'Sumatras', they are characterised by high winds and heavy rainfall. Although usually of short duration, they often cause flooding and wind damage to property in exposed areas.¹ Fortunately, Singapore is untroubled by more serious typhoons and cyclones.

Earthquake and Volcanic Activity

Singapore is situated near the periphery of the earthquake belt that runs in a great arc through the Indonesian Archipelago and the Malay Peninsula. and the earth tremors felt during the nineteenth century have all been attributed to volcanic activity elsewhere in the region.² No similar instances have been recorded during the twentieth century.

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1. On 24 September 1974, the author experienced a typical 'Sumatra', during which 21.9 mm of rain fell in less than twelve hours causing flooding in some parts of the City of Singapore. Wind speeds reached 13.5 m/sec.
 2. Such was the force of the explosion that accompanied the spectacular eruption of Krakatoa in 1883, that it interrupted the evening service at St. Andrew's Cathedral. Later that evening, further rumblings were heard, and several days later two pieces of pumice stone, described as being '...as big as a hat...', were found floating outside the harbour.

Vegetation

Before the British settlement of Singapore in 1819, the island was almost entirely covered with primary tropical rain forest (durian, breadfruit, mangosteen, rambutan, nutmeg, mango, evergreen oak and other species). However, within forty years an estimated 17,500 ha had been cleared, either for fuel or the cultivation of nutmeg and pepper, and abandoned. So rapid and widespread was the destruction of the forest, that in 1884 the British Government was forced to act, designating more than 3,000 ha as forest reserves. But with the exception of the slopes of Bukit Timak, clearance continued, and today only two areas remain : one of approximately 65 ha in the Bukit Timah Reserve, and a second of approximately 4.4 ha in the grounds of the Botanic Garden.¹ In its place, secondary tropical rain forest has flourished (pom-pom, tiup-tiup, silverback and other species). Algae, mosses, lichens, liverworts, ferns and orchids also flourish. In contrast, the saltwater mangrove swamp forest that once fringed the entire island remained relatively intact until recently, but they too are now disappearing as a result of increasingly larger reclamation schemes.² Kranji Nature Reserve, on the northern coast of the island on the banks of the Johore Strait, is the only remaining officially protected area, but extensive areas still exist in the west. Freshwater mangrove swamp forests occur in isolated lowland areas subject to flooding, and coarse grasses, known locally as 'Belukar' and 'Lalang' occur on areas now abandoned after cultivation. Cultivated species include the mango, which was introduced from India, the soursop, custard apple, guava, papaya, and dorian.

3. CULTURAL SETTING

Population

Singapore is an essentially plural society, 76 per cent. of the island's population being Chinese (Cantonese, Hakkas, Hokkiens, Hainanese and Teochews); 15 per cent. being Malay and Indonesian; 7 per cent. being Indian and Pakistani; and the remainder being European and Eurasian.

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1. The Botanic Gardens were established on their present site in 1859, the British Government granting an area of just less than 20 ha to the Singapore Agri-Horticultural Society for the purpose.
 2. Jurong Pandan and Seletar Tampine areas.

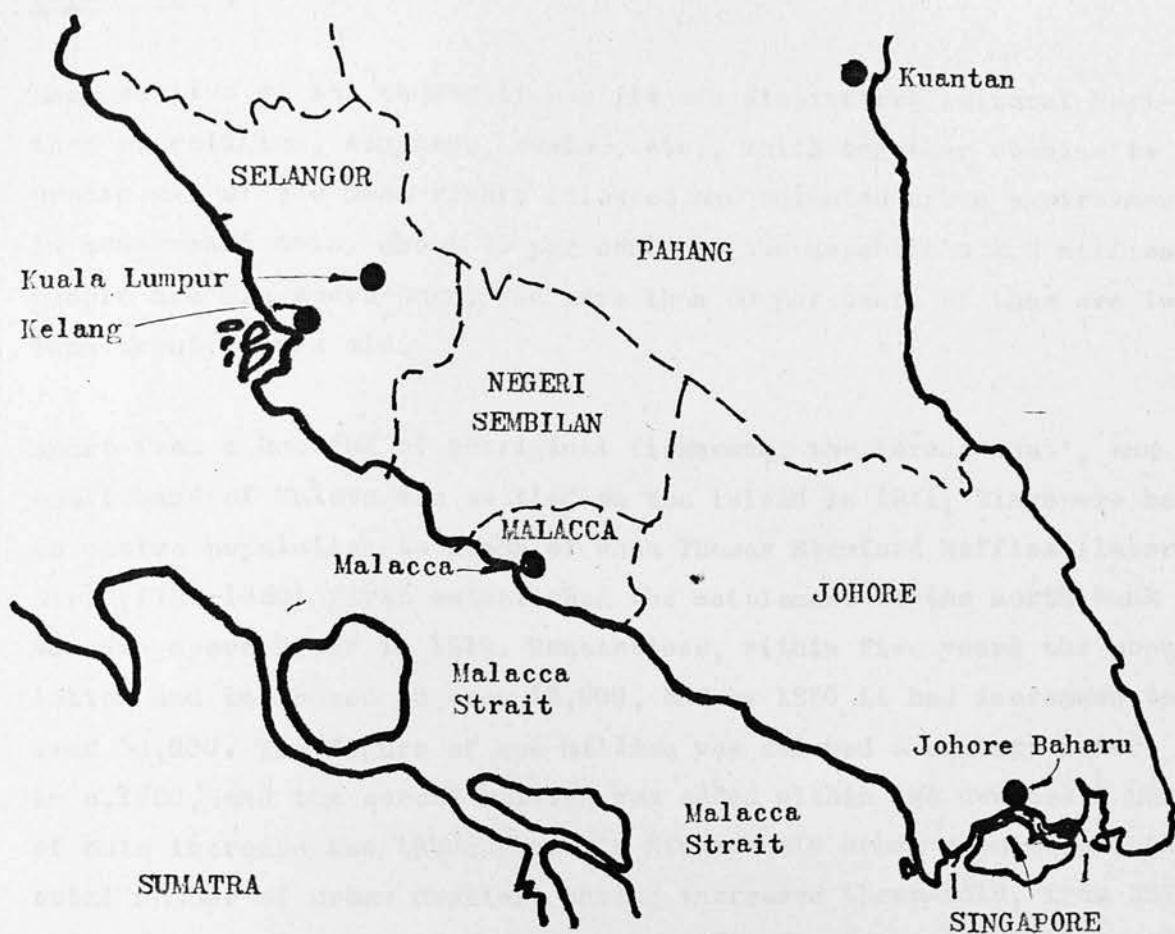


Fig.168 Singapore - Position

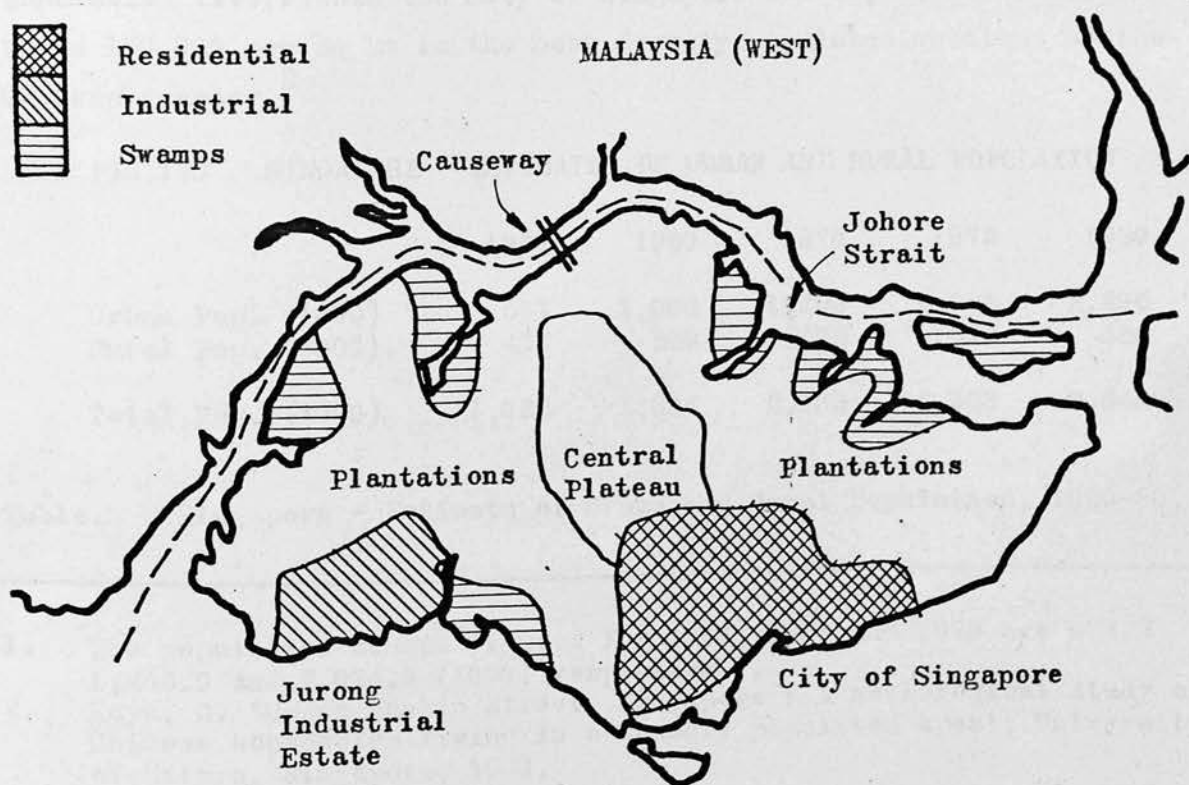


Fig.169 Singapore - Land Use

Each section of the community has its own distinctive cultural heritage of religion, language, custom, etc., which together combine to create one of the most richly coloured and animated urban environments in south-east Asia. About 75 per cent. of the Republic's 2.3 million people are Singapore-born, and more than 50 per cent. of them are less than twenty years old.

Apart from a handful of aboriginal fishermen, the 'orang laut', and a small band of Malays who settled on the island in 1811, Singapore had no native population to speak of when Thomas Stamford Raffles (later Sir) (1781-1826) first established the settlement on the north bank of the Singapore River in 1819. Nonetheless, within five years the population had increased to over 10,000, and by 1850 it had increased to over 50,000. The figure of one million was reached a century later, in c.1950, and the second million was added within two decades.¹ Much of this increase has taken place in Singapore's urban population, the total number of urban dwellers having increased three-fold, from 587,000 in 1950, to an estimated 2 million in 1975. Simultaneously, the number of rural dwellers has decreased from 435,000 to an estimated 378,000. At the time of writing (1978) an estimated 85 per cent of the Republic's population live within the City of Singapore itself, at densities of up to 150,000 per sq km in the most densely populated sections of the Chinese quarter.²

FIG.170 SINGAPORE - ESTIMATES OF URBAN AND RURAL POPULATION

	1950	1960	1970	1975	1980
Urban Pop. ('000)	587	1,066	1,700	1,985	2,295
Rural Pop. ('000)	435	568	405	378	350
Total Pop. ('000)	1,022	1,634	2,105	2,363	2,645

Table. Singapore - Estimate of Urban and Rural Population, 1950-80.³

1. The population census figures for 1947, 1957 and 1970 are 938.2, 1,445.9 and 2,074.5 ('000) respectively.
2. Kaye, B. 'Upper Nankin Street, Singapore : A sociological study of Chinese households living in a densely populated area', University of Malaya, Singapore, 1960.
3. United Nations Demographic Yearbook.

Language

The principal language of Singapore is Chinese. Malay, Indonesian, Tamil, Hindi, Urdu and other Asian languages are also used. English is used both in commerce and government, and is widely understood.

Religion

The principal religions of Singapore are Confucianism, Taoism and Buddhism. Islam, Hinduism and various Christian religions, such as Roman Catholicism and Protestantism, are also practised.

Education

Singapore has two universities, one polytechnic, one technical college and one teacher training institute. In consequence, the island can boast an adult literacy rate of 90 per cent.¹

4. ECONOMIC SETTING

Employment and Commerce

The principal occupations and trades in Singapore are connected with commerce and finance, light industries, public administration, and transport and communications. The ship and platform-building, and ship-repairing industries are becoming increasingly important in providing additional employment. Dramatic increases in the cost of renting residential and commercial premises in Hong Kong since 1973 and growing uncertainty over the colony's future, have prompted many international and multi-national corporations to transfer their operational headquarters to Singapore, the result of which has been increased political pressure to redevelop the Chinese historic core of the City and the undertaking of extensive reclamation schemes, for example Shenton Way, to create additional building land. So rapid has Singapore's industrial development been over the last decade that the Government has established a 3,600 ha. industrial estate at Jurong where steel is already being produced and where engineering, chemical and textile plants have been set up. Reservoirs have also been built at Kranji and Ulu Pandan.

1. This compares with an adult literacy rate of 98 per cent. in Australia, Japan, the United States and the USSR.

Tourism

Although the average length of stay is only 2.5 days, tourism plays an important role in Singapore's economy. In 1968, the total number of visitors to the island was 300,000 and between them they spent an estimated 49 million US dollars. This compares to almost one million visitors in 1973 and an estimated expenditure of 225 million US dollars.

5. POLITICAL SETTING

Constitution and Government

Following the island's separation from the Federation of Malaysia on 7 August 1965, Singapore became an independent sovereign state and, by an amendment to the Constitution, the name of the state was changed to 'Republic of Singapore'. Simultaneously, the head of state was named 'President of Singapore' and the legislative assembly was renamed 'Parliament'.

Parliament consists of 65 members, elected by secret ballot from single member constituencies, and is presided over by a speaker chosen by Parliament from its own members, or from outside the Assembly.

Subject to customary exceptions, all citizens over twenty-one are eligible to vote irrespective of sex, race, education or property qualification. There is a common roll, without communal electorates, and under Part IVa of the Constitution a Presidential Council was established to consider and report on matters affecting persons of any racial or religious community, and draw attention to any bill or subsidiary legislation which is a differentiating measure.

International Relations

Singapore is a member of ASEAN, Colombo Plan, Commonwealth, United Nations and following UN related agencies - IAEA, ILO, UNESCO, WHO, IMF, IBRD, ICAO, UPU, ITU, WHO, IFC, IMCO and GATT.¹

1. See list of abbreviations, pp.

2. HISTORICAL BACKGROUND

1. EARLY HISTORY

The early history of Singapore remains shrouded in mystery and uncertainty, but evidence exists which suggests that Indian, Arab and Chinese traders visited the island from the fourth century onwards, harnessing the power of the summer and winter monsoons to sail across the Indian Ocean and through the Malacca Strait. According to the Malay Annals, the island, which was originally known by the Malay name of Temasek, literally 'sea town', was renamed Singa-pura, literally 'town of the sea', by a Sumatran prince of the Sri Vijaya dynasty (670-1350) named Sang Nila Utama, who, upon first setting foot upon its shores in 1299, was greeted by a lion.¹

Wang Ta-yuan, a Chinese trader who visited the island in 1349, noted in his journal that its short-haired inhabitants, who wore turbans of gold brocaded satin and red oiled cloths, lived on the hollow summit of the Forbidden Hill, Bukit Larangan, which was '...surrounded by interconnected terraces, so that the people's dwellings encircle it...'. As the authority of Sri Vijaya declined, so the inhabitants of the island indulged in large scale piracy and brigandage, threatening the passage of Chinese junks returning from the Indian Ocean. Wang described the situation as follows :

'...When the Chinese junks go to the Western seas, these people let them pass unmolested; but when on the way back they reach the Carimon islands, then the crew of the junks get out their armour and their padded screens to protect themselves against arrow fire; for it was certain that two or three hundred pirate ships would attack them...'.²

After the fall of the Sumatran Sri Vijaya dynasty, the island came under the authority of the Javanese Majapahit dynasty (950-1478), but following the death of Hyam Wuruk (1350-89) and the outbreak of civil war in 1401, the whole of the Malay Peninsula, including Singa-pura, was compelled to acknowledge the overlordship of the Siamese Ayuthya dynasty (1368-1757). In the same year, a Sumatran nobleman named

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1. Brown, C.C. (trans.). 'Sejarah Melayu or Malay-Singapore Annals', JMS (1930), vol. xiii, pts. 2 and 3, 1933.
 2. Moorhead, F.J. 'A History of Malaya and her Neighbours', vol.1, Longmans, London, 1937.

Parameswara, who was subsequently to found the Kingdom of Malacca (1402-1511), and a number of his supporters, were forced to seek refuge on the island. As a member of the Majapahit court, he was welcomed and offered hospitality by the island's ruler, but after a few days he murdered his host and seized the throne, whereupon he was forced to flee to Malacca by the Siamese.¹ Shortly afterwards, the settlement appears to have been totally destroyed, Singa-pura's 'great ruins' being remarked upon by Portuguese traders and travellers from the sixteenth century onwards.

For the next four hundred years, Singa-pura remained little more than a backwater, the haunt of fishermen and pirates. However, in the meantime south-east Asia had become the setting of an intense international commercial and military rivalry between the principal European powers. The first to arrive, at the beginning of the sixteenth century, were the Portuguese. A century later, they were followed by the Dutch and the British, between whom mercantile competition was especially fierce, but after the massacre of Amboina in 1623, the British withdrew to India to concentrate all their energies against the French, and the only British settlement remaining in the east after 1685 was Bencoolen, on the west coast of Sumatra. The remarkably rapid growth in trade between India and China that followed the granting of the monopoly of trade with Kwangchow (Canton) to the Select Committee of the British East India Company in 1757, brought about a change of British government policy towards the Malay Peninsula. Thenceforward, determined efforts were made to establish a settlement other than Bencoolen, which was considered to be too far removed from the main trading routes that passed through the Malacca Strait and the Sunda Strait. The need for a naval base on the eastern side of the Bay of Bengal, from which to control British interests in Eastern India, added a sense of urgency to the situation, and in 1736 a settlement was established at Penang. A decade later, following the defeat of the Dutch in 1795, the British occupied Malacca, and, using it as base for their operations, accomplished the defeat of the Dutch in Java. The man upon whose advice, and with whose assistance, the conquest was completed, was Thomas Stamford Raffles (later Sir) (1781-1826), the son of an improvident sea-captain and a former clerk at India House, the London office of the British East India Company.

1. At the beginning of the fifteenth century, Siamese authority extended throughout Indo-China. They were the masters of Burma, Malaya, Laos and the upper valley of the Menam.

In recognition of his services to the British Government, the Governor-General of India, Lord Minto, appointed Raffles as Lieutenant-Governor of Java in 1811. However, under the provisions of the London Convention of 1814, the Dutch regained all their former possessions, including Malacca and Java, and Raffles, after a brief visit to England during which he was knighted by George IV, found himself relegated to the position of Lieutenant-Governor of Bencoolen.¹

Minto's successor as Governor-General of India was the Marquess of Hastings, and in 1818 Raffles visited him in Calcutta to persuade him to establish '...a station beyond Malacca, such as may command the southern entrance to those Straits...'.¹ Hastings agreed, the island of Riau being chosen as the site of the proposed station, but on his return Raffles discovered that, in the meantime, the island had been occupied by the Dutch. Warren's second choice was Acheh, a small settlement on the northern coast of Sumatra, but Raffles, ignoring his orders, sailed southwards to find a suitable site, and, on 28 January 1819, he landed on the island of Singa-pura near the mouth of the Singa-pura River.²

When Raffles first landed upon Singa-pura, the island had a population of approximately one hundred and fifty, comprising about thirty Chinese, one hundred Malays, who had settled there in 1811, led by a senior vassal of the Sultan, the Temenggong, and an unknown number of orang laut, presumably the descendants of the pirates and fishermen noted by Wang Fa-yuan in the mid-fourteenth century. On 30 January 1819, Raffles signed a preliminary agreement with the Temenggong allowing the British East India Company to establish a factory on the island, British authority extending from Tanjong Mallang to Tanjong Katong, and as far inland as the range of cannon shot. By skillfully exploiting the various claimants to the throne of Johore, Raffles was able to secure formal approval of the agreement, and on 6 February 1819, it was ratified by the elder brother of the Sultan of Johore, Tengku Long, whom Raffles transported to Singapore to be proclaimed Sultan. The following day, Raffles returned to his post in Bencoolen, and over the next four years he was to spend less than nine months in the settlement that he had founded.³

1. Wurtzburg, C.E. 'Raffles of the Eastern Isles', Hodder & Stoughton, London, 1945.

2. Wurtzburg, C.E. Op cit.

3. Wurtzburg, C.E. Op cit.

2. COLONIAL HISTORY

Dutch opposition to the establishment of the settlement was understandably complete, and it was not until 1824 that they recognised the authority of the British Government in Singapore.¹ In the same year, a new agreement was negotiated with the Sultan of Johore and the Temenggong, each of whom, in return for a financial consideration and a pension for life, agreed to cede '...the island of Singapore, together with the adjacent seas, straits and islets, to the extent of ten geographical miles from the coast of the said main island of Singapore...'. Until 1826, when Singapore was united with Malacca and Penang to form the Straits Settlements Presidency under the jurisdiction of the Governor of Penang, it was administered from Bencoolen, Raffles instructing the first Resident, Colonel Farquhar, and his Surveyor of Lands, Lieutenant Jackson, with regard to the development of the settlement, mostly by letter. Four years later, the Straits Settlements were reduced from the status of a presidency to a residency, subject to the authority of the Governor of Bengal. Finally, in 1832, the seat of the residency was transferred from Penang to Singapore.

The settlement prospered immediately, and within a year of its founding, it was earning sufficient revenue to pay for its administration. Thereafter, its economic growth was meteoric, due partly to its natural, sheltered, deep-water harbour and its strategic position on the China-India sea route at the southern entrance to the Malacca Strait, but more especially to the laissez-faire trading policy pursued by Raffles, which attracted traders from all over the region. Thus, Singapore became what Raffles described as '...a great commercial emporium and a fulcrum whence we may extend our influence...'.²

The withdrawal of the British East India Company's monopoly of trade with China in 1834 caused a temporary decline in the settlement's fortunes, but so well established had the European, Chinese, Indian, Arab and American merchant houses become by that time, that it soon recovered fully, and three years later, the Singapore Chamber of Commerce was established. In 1845 the first regular passenger steamers began to operate between Europe and the Straits Settlements, and in 1852 the P & O³ inaugurated its Singapore-Australia service. After the opening of the Suez Canal in 1869, Singapore's position as a trading and communications centre was further consolidated.

1. Treaty of London, March 1824.

2. Wurtzburg, C.E. Op cit.

3. Peninsular and Oriental Steam Navigation Company.

In 1858, Queen Victoria became Empress of India, and the authority of the British East India Company was ended. However, another nine years were to pass before Singapore became subject to the direct control of the Colonial Office, and a governor was appointed.

3. MODERN HISTORY (1900-1975)

In 1890, the Straits Trading Company built a tin smelter at Pulau Brani in Malaya to supply tin to the newly-founded canning industry, and by 1895 it was producing more than one-third of Malaya's total output. At about the same time, the Director of the Singapore Botanic Gardens, Henry Ridley, succeeded in persuading the local Chinese plantation owners to sow rubber tree seeds, (cultivated at London's Kew Gardens,) at Malacca. More importantly, perhaps, he invented a commercially profitable system of tapping the raw rubber. Thus were established Malaya's, and in consequence, Singapore's, two principal sources of wealth during the twentieth century. In 1911 the Singapore Chamber of Commerce Rubber Association was established, thenceforward rubber being traded locally rather than on the London Rubber Market.

The First World War (1914-18), which left Japan in control of the China Sea, largely by-passed Singapore, and when the Anglo-Japanese Alliance expired in 1921, the British Government declined to renew it, preferring to construct a naval base at Singapore rather than to maintain a second fleet in the Far East. Because of changes of government policy, the naval dockyard was not completed until 1938, and on the assumption that any attack on Singapore would come from the sea, it was built without any landward defences.¹ In the meantime, Singapore continued to flourish, its European inhabitants curiously isolated from the events that were gradually overwhelming the developed world. However, from the beginning of the 1930's onwards, the Great Depression gradually began to affect the economy, resulting in widespread unemployment and the prohibition of male immigration.²

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1. Barber, N. 'Sinister Twilight : the fall and rise again of Singapore', Collins, London, 1968.
 2. The effect of the Aliens' Ordinance 1932, was to encourage the immigration of women, the proportion of whom among the Chinese rose from 13 per cent. in 1911 to 44 per cent. in 1947.

The fall of Singapore on 15 February 1942, after a campaign lasting exactly one week, the Japanese Army advancing southwards down the Malay Peninsula to attack from the north, across the undefended Johore Strait, was considered by many at the time to be the greatest single military defeat in British history. The implications of the Japanese victory were profound for the peoples of Asia, demonstrating as it did, once and for all, the myth of European invincibility, and accelerating the gradual movement towards independence. One of the first acts of the Japanese occupation forces was to remove the statue of Raffles from its pedestal, and to place it in store, with a view to melting it down once victory had been proclaimed.

During the Japanese occupation, which lasted a little more than three and a half years, Singapore was known by the name Syonan, literally 'bright south'. Among the many Chinese interned by the Japanese was a young man named Lee Kuan Yew, who was subsequently to become the Prime Minister of Singapore.

After the re-establishment of British civilian authority, on 1 April 1946, Singapore became a Crown Colony. Efforts to return to the situation prevailing prior to the Japanese occupation proved unsuccessful, however, and after a decade of agitation, strikes, rioting and arson, the British Government was forced to cede a degree of local autonomy, and Singapore was granted internal self-government in 1958. A year later, Lee Kuan Yew, the leader of the socialist People's Action Party (PAP), became Prime Minister, and on 3 June 1959, the new state of Singapore came into being. The last Governor of Singapore, Sir William Goode, was replaced by Yusef bin Isahak, as Head of State, on 3 December 1959. In September 1963, in the face of intense Indonesian opposition, Singapore joined with Malaya, to form the Federation of Malaysia. However differences of opinion about financial and economic matters, and widely separated views on matters of general policy, forced Singapore to separate from the Federation two years later, and on 9 August 1965, Singapore became an independent sovereign republic. The history of Singapore since independence has, in great measure, been fashioned by one man, Lee Kuan Yew, under whose leadership it has been transformed from an entrepôt port and naval base to a major commercial and industrial centre.¹

1. George, T.J.S. 'Lee Kuan Yew's Singapore', London, 1973.

3. CULTURAL HERITAGE

1. ARCHAEOLOGICAL

To date, no single prehistoric artifact has been unearthed on the island of Singapore - even though excavations of up to 18 m. in depth have been made in the city's historic core on the south bank of the Singapore River for the construction of underground car parks and basements. Several chance finds were, however, made on the smaller, outer islands near to Singapore Island between 1880 and 1914, and these are now exhibited at the National Museum, Stamford Road.

Physical evidence of more recent settlement is no less sparse. Chinese pottery, dating from the Ming (1368-1644 A.D.) and Ch'ing (1644-1912 A.D.) dynasties, together with an unspecified number of gold ornaments of unknown provenance, have been unearthed at Fort Canning Cemetery, site of the former Sri Vijayan settlement on the summit of Bukit Larangan (the 'Forbidden Hill') described by Wang Ta-yuan. But of the settlement itself, the lines and defences of which were noted by Raffles in 1819 A.D., and the tombs of the Malay kings that were once located on the site, nothing has so far been discovered. An inscribed stele, dating from the Majapahit period (950-1478 A.D.), unearthed during road-widening operations near the mouth of the Singapore River, was blown-up by the former Public Works Department - an act of vandalism which it has never been allowed to forget. A single surviving fragment is piously exhibited at the National Museum.¹

2. ARCHITECTURAL

Singapore's architectural heritage is of comparatively recent origin - dating entirely from the British colonial period (1819- 1958 A.D.).

Urban Development

When Raffles landed on the island of Singapore, it was still covered by a dense mantle of tropical rain forest and surrounded by an impenetrable barrier of salt water, mangrove swamp forest, and in the early days of the settlement's foundation, up to one thousand labourers toiled

1. Ong, Mrs. Constance Alice Cheng Liu. 'Preparatory Conference on the Restoration and Animation of Historical Sites', 4-8 December 1972, SEAMES, Phnom Penh, 1973, pp.418-424.

to clear the chosen site each day, near to the mouth of the Singapore River. From his post at Bencoolen, Sumatra, Raffles issued instructions to his Resident, Colonel Farquhar and later to his Surveyor of Lands, Lieutenant Jackson, for the development of the site : a grid-iron plan with the main roads running parallel to the shore and the secondary streets crossing them at right angles. On the north bank of the river were situated the principal government buildings, arranged about a broad expanse of turf known as the Padang (Esplanade), and beyond them lay the residences of the European community. At the northern periphery of the settlement, at the foot of Telok Blangah, was situated the Temenggong's kampong, around which the Arab and Bugi communities were quartered.¹ On the south bank of the river were situated the offices and go-downs² of the mercantile community, arranged along South Boat Quay, and beyond them lay the quarters of the Chinese community, itself divided into smaller sections reflecting the regional origins of the residents - Cantonese, Hakka, Hokkien, Teochew, etc. To the west of the mercantile district were the quarters of the Indian trading community, while to the east, Fort Fullerton and Battery Point guarded the harbour approaches. The Elgin Bridge, a wooden structure erected in 1823 A.D., was the first to span the river and link both banks. A second bridge, constructed of brick, was erected in 1840 A.D.

As the forest was cleared and the swampland reclaimed, so the settlement spread : westward along Havelock Road and Tiong Bahru, eastward along Katong and Geylang, and northward along Serangoon Road. By 1845 A.D. the road linking the settlement with Kranji, on the north side of the island, was completed, enabling produce from the mainland of the Malay Peninsula to be transported overland instead of being transported by sea. Collyer Quay was built on reclaimed land in 1858 A.D., and three years later the sea wall linking Johnston's Pier and Telok Ayer Market, was completed. The construction of Anson Road, Cecil Street and Keppel Road in 1880-95 A.D., provided a permanent link with New Harbour, built 5 km. to the southwest of the settlement by the Peninsular and Oriental Steam Navigation Company - the celebrated 'P & O'. Subsequently, there was a considerable amount of urban development along the fringes of the island's main roads, but the majority of the population continued

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1. Suspected of returning to piracy, the Temenggong and his people were moved '...lock, stock and barrel...' from their original kampong at the mouth of the Singapore River in 1823 A.D.
 2. Term derived from the Malay 'gedong', meaning warehouse or store.

to live within a radius of 2 km. of the settlement's historic core, only the European community moving out to the suburban areas in any numbers. The causeway linking the island with the mainland was completed in 1923 A.D.

Building Types

The plural nature of Singaporean society and culture is reflected in the variety of the island's building types.

a) Domestic Buildings :

The architectural character of the City of Singapore still, albeit to a diminishing extent, reflects Raffles' original grid-iron plan of 1819-23 A.D. This is particularly true of the southern central district of the city's historic core, the so-called 'Chinatown' district, with its clearly defined boundaries and regional sub-divisions. The early temporary shelters of bamboo and attap¹ have long since been replaced by the ubiquitous 'shop-house' building type of mainland China. The first to be built, in 1842 A.D., were single storey structures, varying in width of frontage and depth, from 4-5 m. and 30-60 m. respectively, and comprised only two rooms : an open-fronted shop opening directly onto the street, and a multi-purpose workshop/living/dining/bedroom at the rear. Later, as immigration increased, so one or two additional storeys were added and subdivided into smaller rooms and cubicles. Linked by the 'five foot way' required by Raffles, and colour-washed in often startling shades of pink, blue and green, these shop-houses form the most important element in the townscape of the historic core of the city on the south bank of the Singapore River.

In contrast, the European community, which settled on the north bank of the Singapore River, was housed in spacious brick bungalows set within walled compounds averaging 4-6 ha. in area. Internally, the walls were lime-washed, the floors matted and the rooms divided by folding screens. However, from 1840 A.D. onwards, the European community began to desert the northern central district for the healthier climes of River Valley Road and Orchard Road. Raised above the ground on

1. Thatch made from the fronds of the Nipah Palm.

Building Types (cont.)

stilts, with high ceilings and open verandahs running the width of the frontage, imitating traditional Malay dwellings, these early suburban residences have survived in only two areas : Tanglin and Cluny Road. One of the oldest is 'Bellevue', built by Dr. Thomas Oxley in 1842 A.D.¹

Following the departure of the European community, the wealthiest Chinese merchants and financiers began to move into the northern central district. Mrs. Florence Caddy, a guest of the Duke of Sutherland on his yacht, 'Sans Peur', visited the house of such a Chinese in 1888 A.D. and noted in her journal that :

'...(he has) open worked trellis screens painted in white and pale porcelain covers all over his house as partitions to the rooms, with few solid wall spaces hung with the Japanese pictures called Kakemonos, making the whole house one veiled serial perspective set with flowers all about the open courts and pathways. Here he sits in azure silk raiment, and amuses himself and his friends with fishing for fat carp from his windows and feeding them with dozens of slices of bread...'²

Alas few examples of such splendid houses have survived to the present day, and that of Tan Yeok Nee (1827-1902 A.D.), a prominent Teochew who made his fortune as a pepper merchant and gambler in Singapore and Johore, is a rare example, not only of the latest but also the finest, of the small number of town houses constructed between 1865 and 1885 A.D. in the architectural style then common in the southern provinces of mainland China. Abandoned at the beginning of the twentieth century when the Singapore-Johore Railway line was laid nearby, the house was later occupied by the local station master until 1940 A.D. and is now the headquarters of the Salvation Army.

Of the Temenggong's kampong at the foot of Telok Blangah, nothing has survived, and those kampongs which remain consist largely of ramshackle structures of corrugated iron sheeting and wooden planks. Most lack sanitation, a fresh water supply and electricity, and the beaten earth footpaths that separate them, quickly become impassible after heavy rain. As such, they are reminiscent more of the squatter settlements of Jakarta and Bangkok than the traditional bamboo and attap kampongs of Malaysia.

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1. Scheduled under section 8(1) of the Preservation of Monuments Act, No.45 of 1970.
 2. Caddy, F. 'To Siam and Malaya in the Duke of Sutherland's yacht, 'Sans Peur'.', Hurst and Blackett, London, 1889.

b) Chinese Temples and Shrines :

There are reputed to be more than five hundred Chinese temples and shrines in Singapore, the majority of which are cared for by the local community - among whom religion has been described by one observer as '...a blend of Confucianism, Taoism, animism, commercial sorcery and public exhibitionism...'.¹ The oldest and most important is the Hokkien, Thian Hoch Keng ('Heavenly Happiness') Temple, Telok Ayer Street, built between 1839 and 1842 A.D. at an estimated cost of thirty thousand Spanish dollars.² The central portion of the temple, including the entrance and main courtyards, was constructed with materials imported from mainland China. When the statue of Ma-cho-po (Mother of Heavenly Sages) arrived by steamer there were massive public celebrations. The statues of Kuan-ti (God of War) and Pao Sheng Ta-ti (His Majesty the Protector of Life), which today flank the statue of Ma-cho-po, were added some time after the completion of the temple. The temple is believed to be built on the site of a former joss or incense house which grew wealthy from the offerings of thanksgivings made by grateful Chinese who had safely completed the sea journey from mainland China. Whilst remaining little changed itself, the setting of the temple has altered dramatically, for when it was constructed, Telok Ayer Street fronted directly onto the shore.³ The Tan Si Chong Su Temple, Magazine Road, serves both as an ancestral temple and community hall for the Tan clan. The property, which is well maintained and in good structural condition, was built in 1876 A.D. at the expense of Tan Kim Chin (1829-92 A.D.) and Tan Bang Swee (1828-84 A.D.). One of the largest temples in Singapore is the Shuang Lin Temple, Kim Keat Road, built in 1904 A.D. by two Hokkien brothers. It comprises two large altar halls and numerous smaller halls arranged around two courtyards, and is profusely decorated with carved temple guardians, Bodhi-sattvas and miscellaneous Chinese deities, including a 1,500 mm. statue of Kuan Yin (Goddess of Mercy). The most spectacular Chinese temple in Singapore is the Buddha Gaya Temple, Racecourse Road, which houses an '...all electric...' reclining Buddha estimated to weigh more than 25,000 Kg.

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1. Mc.Kie, R.C.H.
 2. The Spanish silver dollar remained legal tender in Singapore until 1906 A.D., when the Straits dollar was introduced.
 3. Until 1843 A.D., the shoreline ran across the middle of what is today the Padang, before passing through Fullerton Square and along the south side of Raffles' Place to Finlayson Green.

c) Hindu Temples and Shrines :

There are more than twenty Hindu temples and shrines in Singapore in the care of the local community. The most important is the Sri Dhanya-yuthapani Temple, Tank Road, known also as the Subramanian Temple, founded by the Nattu Kottai Chettiar community in 1859 A.D.¹ However, the oldest Hindu place of worship still in regular use in Singapore is the Sri Mariamman Temple, South Bridge Road, built between 1827 and 1843 A.D. on the site of an earlier timber and attap structure erected by an Indian immigrant from Penang in 1827 A.D. It has been repeatedly altered since it was first built, however, being regularly refaced with lime stucco and redecorated, the most recent occasion being in 1970-71 A.D., when artists and sculptors were imported from southern India to undertake the works. The Durgha Shrine was built between 1827 and 1830 A.D. on land leased from the British East India Company for a period of 999 years. It is also the site of the Tomb of Shabul Hamid, and is greatly revered by the Moslem community of Singapore.

d) Mosques :

In June 1823 A.D., Raffles promised the Arab community that the British East India Company would grant the sum of three thousand Spanish dollars towards the cost of constructing a mosque in Singapore. The site chosen for the building was North Bridge Road and it was completed three years later. The first Masjid Sultan Mosque stood for exactly one hundred years - the extension to North Bridge Road being realigned to allow its retention - until 1926 A.D., when construction of the present Masjid Mosque, designed in the Moorish style by the architects of the celebrated Raffles' Hotel, Swan and McLaren, was begun. It was completed two years later. The Jamae Chulia Mosque, built by Chulia merchants from southern India between 1830 and 1835 A.D. on the site of an earlier timber and attap structure, is the oldest surviving Moslem place of worship in Singapore. However, the most venerated is the Masjid Hajjah Fatimah Mosque, built at the expense of Hajjah Fatimah, (a Malay girl from Singapore who married a prosperous Buji merchant from Malacca,) in 1845-46 A.D. in the Malacca style, with a single minaret.² Hajjah Fatimah, her

1. A money-lending, merchant caste from southern India.
2. It has been suggested that the minaret was modelled on the spire of the first St. Andrew's Church.

daughter, Raja Siti, and her son-in-law, Syed' L-Rahman Al-sagoff, are buried in a small enclosure at the rear of the Mosque. The Al-Abrar Mosque, known also as the Koochopillay Mosque and Indian Mosque, is contemporary with the Masjid Hajjah Fatimah Mosque, being built between 1850 and 1855 A.D. on land leased from the British East India Company for 999 years. The most venerated Malay mosques are the Keramat Habib Nor, Palna Street, and the Keramat Iskander Shah, Canning Rise.

e) European Churches :

The Armenian Church of St. Gregory the Illuminator is the work of George Drumgoole Coleman, the architect of 'Georgian' Singapore.¹ It was designed in 1834 A.D. and completed the following year at a cost of just over five thousand Spanish dollars. The plan of the building, which is reputedly based on James Gibbs' first circular plan for St. Martin-in-the-Fields, London (1722-26 A.D.) and influenced by the Church of St. Gregory in northern Armenia, features a circular interior superimposed upon a square plan with a plain pedimented portico (prostyle in antis), executed in the Doric order, on each side. However, over the last one hundred and thirty-odd years, the church has been altered, extended and renovated on at least two occasions, and the original bell turret with its octagonal base and eight Ionic columns has since been replaced with a square bell turret with four Doric pilasters. The main entrance portico (facing onto Coleman Street) was widened in 1853 A.D. The following year, Coleman designed the St. Andrew's Church, St. Andrew's Road, which was demolished in 1854 A.D. after becoming unsafe as a result of a tower and spire being added by the Government Surveyor, J.T. Thomson (1841-44 A.D.) in response to the Bishop of Calcutta's refusal to worship in a Christian place of worship that lacked such refinements. The St. Andrew's Cathedral, built between 1856 and 1863 A.D. on the site of Coleman's conspicuously mortal St. Andrew's Church, was designed by Captain R. MacPherson, Executive Engineer, and supervised by Major J.F.A. McNair and J. Bennet. Inadequate foundations prevented the completion of the Cathedral tower as originally envisaged, however, and the present spire was added in its place. The Cathedral is designed in the Gothic, Early English style.

1. Coleman arrived in Singapore in 1826 A.D. and continued to practise for the next two decades.

Singapore's second cathedral, the Roman Catholic Cathedral of the Good Shepherd, was built between 1843 and 1846 A.D. Designed by D.L. McSwiney and formally consecrated by Bishop Fee (more than half a century later in February 1897 A.D.), it was built on land specifically granted for the purpose by the Resident, Mr. Bonham, in 1832 A.D. Shortly after the official opening of the Cathedral in June 1846, a steeple was added by the High Sheriff of the Straits Settlements, Charles Andrew Dyce,¹ and the nave was extended to its present length in 1888 A.D. Of the first Roman Catholic church, built in 1832 A.D. by public subscription on the site of the present St. Joseph's Institute, nothing remains. It was briefly used as a schoolhouse before being demolished.

f) Public Buildings :

Instructions for the building of a public market were first issued by Raffles in a minute to the Town Planning Committee in 1822 A.D. A site was later chosen by the Resident, Colonel Farquhar, and an octagonal building measuring almost 40 m. in diameter was constructed in 1825 A.D. The 'Old Market', as it subsequently became known, was replaced in 1894 A.D. by the present octagonal, cast-iron building, designed by James McRitchie and manufactured by Maclellans of Glasgow. Constructed on land reclaimed in 1897 A.D. as a result of the Telok Ayer Reclamation Scheme, the Telok Ayer Market was the first of five such market halls to be built by the Municipal Commission. However, it is the only one to survive and has recently been converted into a food centre, and restored by the Urban Redevelopment Authority (URA). Contemporary with the Telok Ayer Market is the Thong Chai Medical Institute, Wayang Street, built in 1892 A.D. by public subscription, the principal benefactor being Gan Eng Seng, a well-known philanthropist of the day and founder of the Gan Eng Seng School. From the day of its establishment it has been devoted to providing free medical care not only to the Chinese community but also to the other communities of Singapore. Other public buildings of note include the neo-classical Parliament House, City Hall and Supreme Court buildings, and the National Museum.

1. Dyce was also a gifted amateur painter and watercolourist, whose illustrations of Singapore, Malacca, Penang and Java, executed between 1842 and 1847 A.D., are an invaluable record of British life in the Far East.

The most celebrated public building in Singapore is arguably the Raffles' Hotel, Beach Road, founded by the Sarkies Brothers who, in 1886 A.D., purchased Captain George Julius Dare's tiffin house and commissioned the architectural practice of Swan and MacLaren to design a hotel on the site. The construction of the hotel began in the same year, and when completed in 1889 A.D., the proud owners were able to boast that theirs was '...the only hotel in the Straits lighted with Electricity, Electric Bells, Electric Fans, Spacious Green Lawns and Lawn Tennis...'. One of the first visitors was Rudyard Kipling, who noted, in his 'From Sea to Sea', that :

'...Providence conducted me along a beach, in full view of five miles of shipping - five solid miles of masts and funnels - to a place called Raffles Hotel where the food is excellent, let the traveller take note. Feed at Raffles, when in Singapore...'.
.

Kipling's splenetic postscript, '...but sleep at the Hotel de l'Europe ...', is not, perhaps understandably, included in the literature published by the Hotel's present management. Until recently, the future of the 127-room Hotel, the majority shareholders in which are the Development Bank of Singapore and the Overseas Chinese Banking Corporation, looked very uncertain. Many areas need redecorating and the bedrooms and public rooms have a genteel shabbiness. In the meantime, the three storey building has been dwarfed by surrounding high buildings. A seventy storey mixed development is programmed on the site immediately adjoining the Hotel. However, the economic climate has recently begun to change and the future of the building now seems assured. Somerset Maugham's favourite suite has been furnished with a Victorian, canopied bedstead complete with mosquito netting, and other suitable fittings. More ambitious plans, intended to assure the long-term future of the Hotel, include the demolition of a later wing and storerooms at the rear, and the construction of an extra four hundred, less cavernous, bedrooms.¹

1. Weston, Geoffrey. 'New lease of life for the eastern Savoy', in 'Singapore - A Special Report', The Times, Monday 19 July 1976, p.IV.

g) Bridges :

Although not the first to span the Singapore River, the Cavanagh Bridge, manufactured by Maclellans of Glasgow and erected between 1859 and 1864 A.D., and named after Major General B. Cavanagh, Governor of the Straits Settlements (1859-67 A.D.), is architecturally the most elegant and structurally the most refined. Constructed of cast and wrought iron, the single carriageway suspension bridge spans approximately 60 m. Today, traffic is largely confined to cyclists and pedestrians.



Fig.171 Singapore - Principal Historic Sites (1 : 20,000).

FIG. 172 SINGAPORE - DRAFT INVENTORY OF MONUMENTS AND SITES RECOMMENDED
FOR PRESERVATION BY THE RESEARCH, DOCUMENTATION AND PUBLICITY
COMMITTEE OF THE PRESERVATION OF MONUMENTS BOARD (PMB). ¹

1. Armenian Church, 58 Hill Street.
2. Fort Canning Cemetary (incl. gateways), Canning Rise.
3. Cathedral of the Good Shepherd, Queen Street.
4. St. Andrew's Cathedral, St. Andrew's Road.
5. Victoria Theatre and Memorial Hall, Empress Place.
6. Keramat Habib Nor, Palmer Road.
7. Keramat Iskandar Shah, Fort Canning.
8. Tanah Kubor Temenggong (graveyard), Telok Blangah Road.
9. Thian Hock Keng Temple, 150-168 Telok Ayer Street.
10. Tua Pekong-Se Temple, Palmer Road.
11. Java Road Mosque, Java Road.
12. Telok Ayer Street Mosque, 140 Telok Ayer Street.
13. Telok Ayer Street Mosque, 192 Telok Ayer Street.
14. South Bridge Road Mosque, 218 South Bridge Road.
15. Sri Mariamman Temple, South Bridge Road.
16. Chettiars Temple, 13-31 Tank Road.
17. Keramat Radin Mas, Mount Faber Road.
18. Sun Yat Sen Villa, 12 Tai Gin Road.
19. Chwee Eng School, Amoy Street.
20. Tan Si Chong Su Hall and Temple, Magazine Road.
21. House of Tan Yeok Nee (Salvation Army HQ), Clemenceau Avenue.
22. St. Joseph's Institution, Bras Basah Road.
23. Istana.
24. Parliament House.
25. City Hall.
26. Supreme Court.
27. National Museum, Stamford Road.
28. Telok Ayer Market, Telok Ayer Street.
29. Dalhousie Obelisk.
30. St. Joseph's R.C. Church, Victoria Street.
31. Statue, Sir Stamford Raffles.
32. The Elephant Statue (outside Parliament House).
33. Tan Kim Seang Fountain.
34. Lim Bo Seng Memorial.
35. Cenotaph, Esplanade.
36. Cavenagh Bridge.
37. MacPherson's Monument (outside St. Andrew's Cathedral).
38. Thong Chai Medical Institution, Wayang Street.
39. Shuang Lim (Twin Grove) Temple, Kim Keat Road.
40. Kusu Island Temple.
41. Gemmill's Drinking Fountain (outside National Museum).
42. Tan Tock Seng's Grave, Outram Road.
43. Masjid Sultan Mosque, North Bridge Road.
44. Ministry of Labour Building, Havelock Road.
45. Site of the first planting of Hevea rubber trees in the Malay Peninsula, University of Singapore (Cluny Road entrance).
46. Memorial to the Civilian Victims of the Japanese Occupation, 1942-45.

1. SEAMES. 'Proceedings of the Preparatory Conference on the Restoration and Animation of Historical Sites', Phnom Penh, 4-8 December 1972, pp.421-424.

The following list of items protected under section 8(1) of the Preservation of Monuments Act, No.45 of 1970, is correct as of August 1976.

1. Thong Chai Medical Institution, Wayang Street.
2. Armenian Church, 58 Hill Street.
3. St.Andrew's Cathedral, St.Andrew's Road.
4. Telok Ayer Market, Telok Ayer Street.
5. Thian Hock Keng Temple, 150-168 Telok Ayer Street.
6. Sri Mariamman Temple, South Bridge Road.
7. Masjid Hajjah Fatimah Mosque, North Bridge Road.
8. Cathedral of the Good Shepherd, Queen Street.
9. Durgha Shrine (former Tomb of Shabul Hamid).
10. Al-Abrar Mosque.
11. Jamae Chulia Mosque.
12. Masjid Sultan Mosque, North Bridge Road.
13. House of Tan Yeok Nee (Salvation Army HQ).
14. Tan Si Chong Su Temple, Magazine Road.

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1. Preservation of Monuments Board,
Ground Floor, National Development Building,
Maxwell Road, Singapore 2.



Fig. 174

Singapore - Map of the Town and Environs of Singapore from an actual survey by George Drumgoole Coleman in 1836 A.D. showing (L to R) Chinese, European and Bugis living quarters. Raffles' grid-iron plan is clearly visible, seventeen years later. Drawn by J. B. Tassin, the map was printed in Calcutta in 1836 A.D.

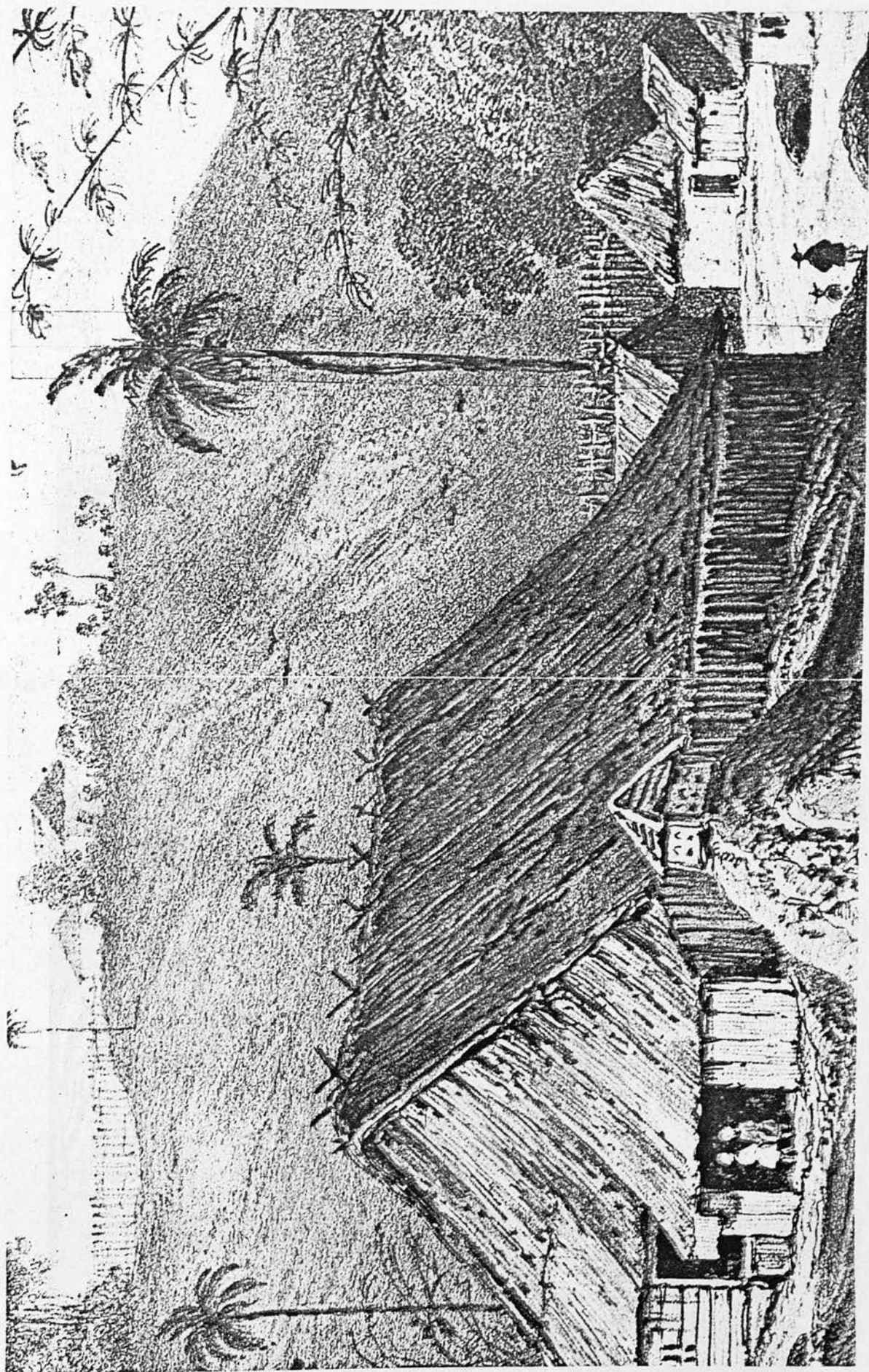


Fig.175 Singapore - The Temenggong's kampong at the foot of Telok Blangah (later Mt.Faber). Presently site of The Observatory (formerly located at Fort Fullerton).

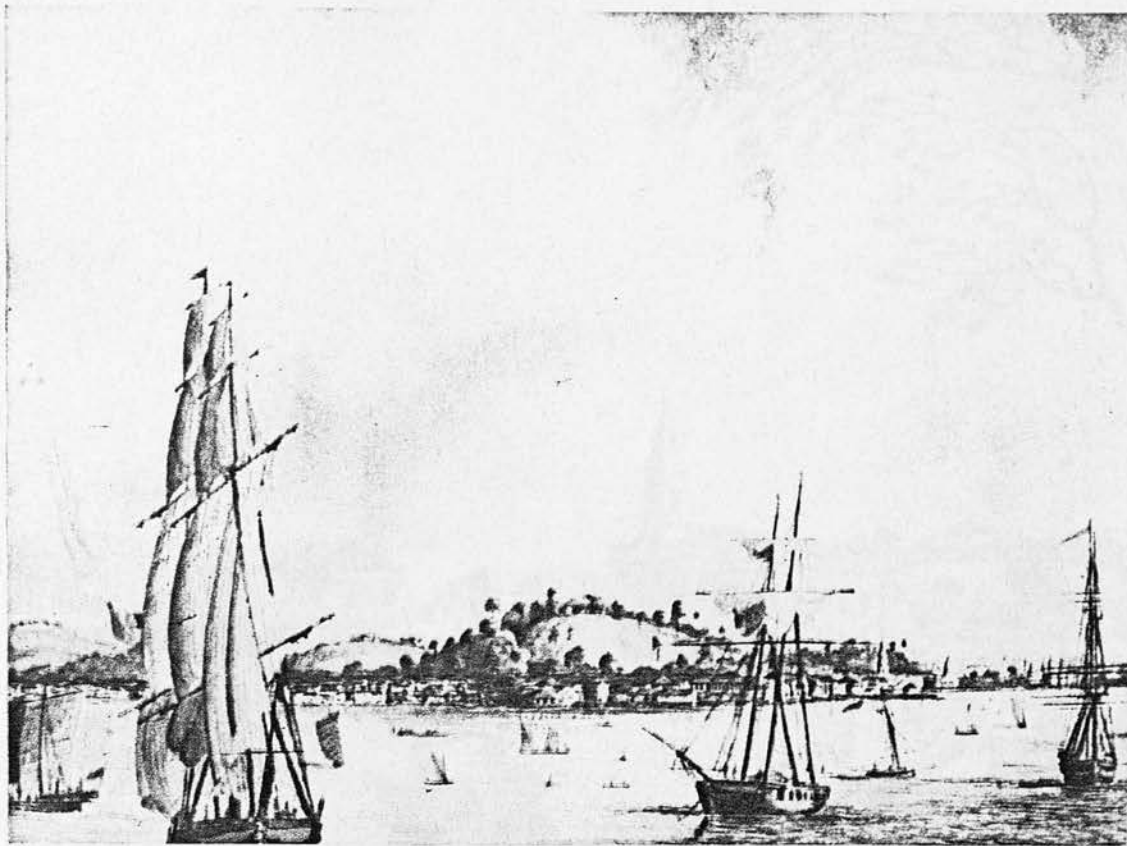


Fig.176 Singapore - Panoramic view of Singapore Island from St.John's Island showing (L to R) Mt.Faber, Mt.Wallich, Telok Ayer Market, Government Hill, Battery Point and St.Andrew's Church.



Fig.177 Singapore - Singapore River from Government Hill showing (L to R) St.Andrew's Church, European residences, North and South Quays, Monkey Bridge, Fort Fullerton, Battery Point and Telok Ayer Market.

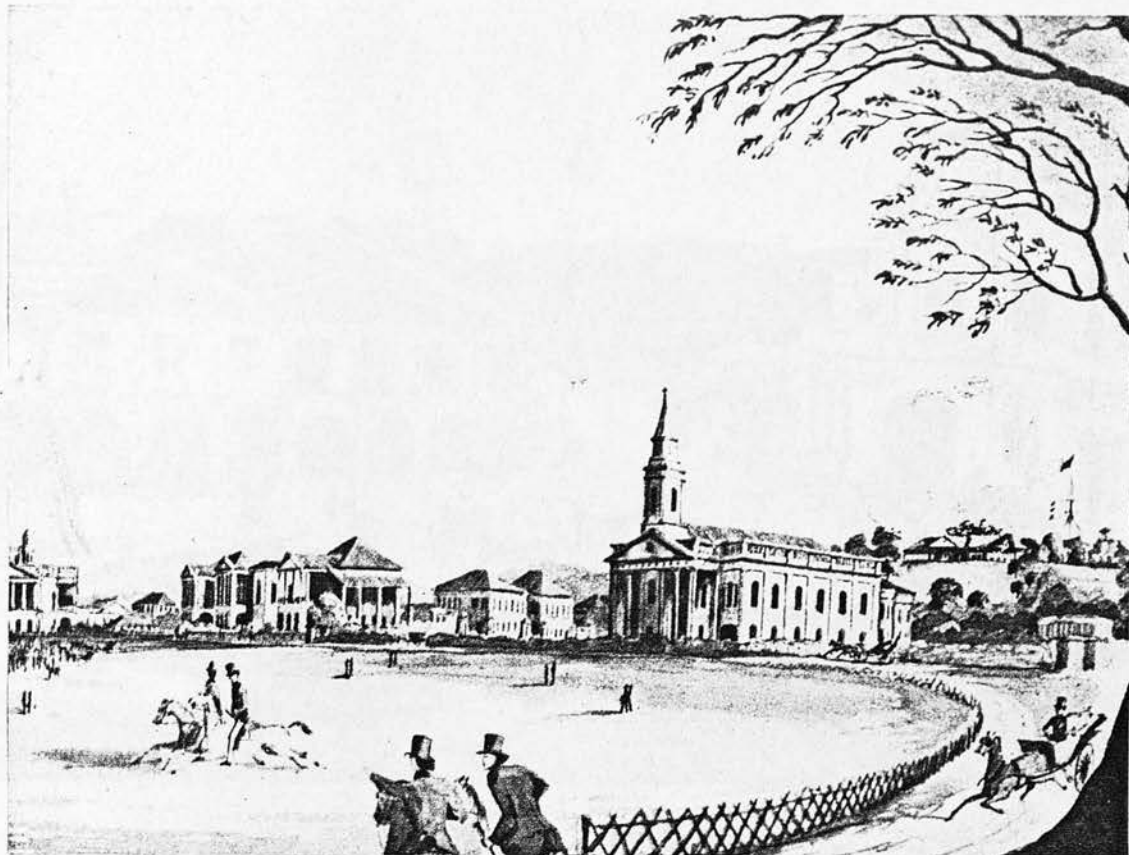


Fig.178 Singapore - The Esplanade (Padang) showing (L to R) residence of John Argyle Maxwell (now Court House), designed by George D. Coleman, European residences, St.Andrew's Church, and Government House (now Fort Canning).

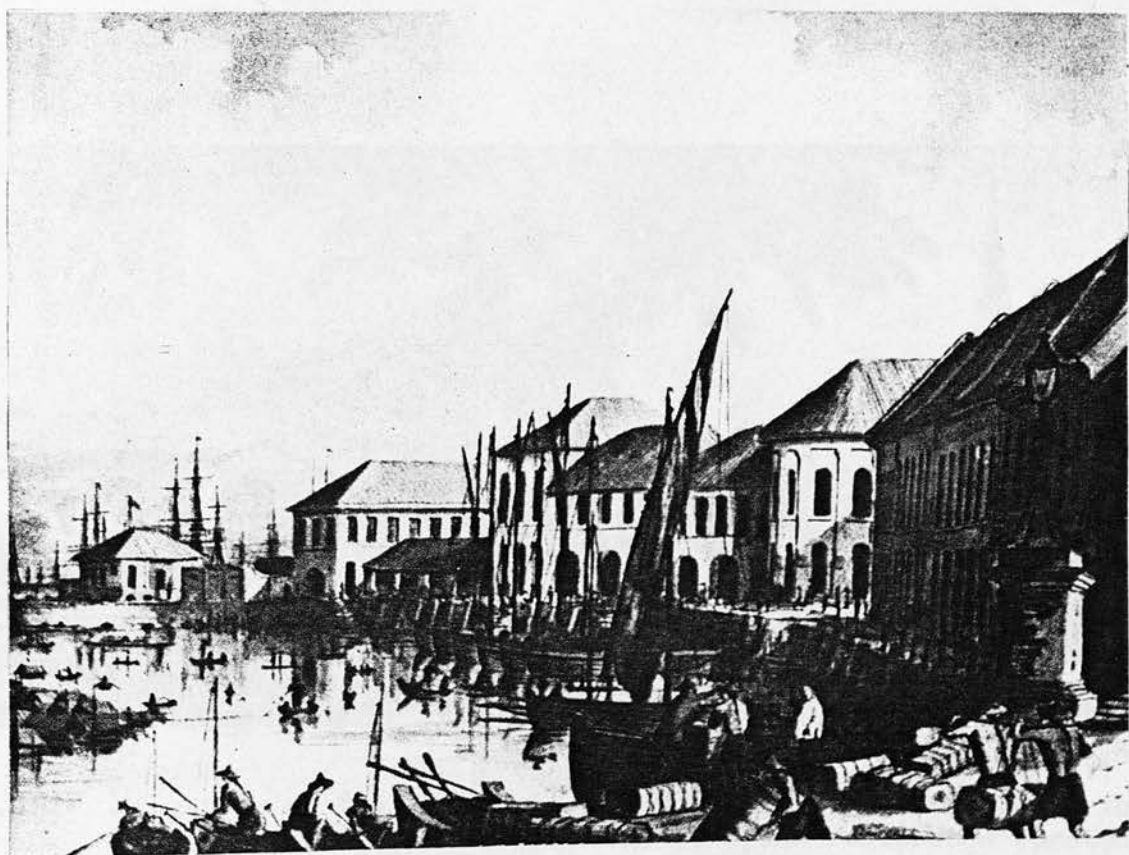


Fig.179 Singapore - South Boat Quay from Monkey Bridge showing (L to R) Battery Point, Fort Fullerton and European 'go-downs'.



Fig.180 Singapore - Fullerton Square in the late 1880s, showing (L to R) Flint's Building, Emerson's Tiffin Rooms, Cavanagh Bridge (built 1869 A.D.), Harbour Office, Post Office and Chamber of Commerce.

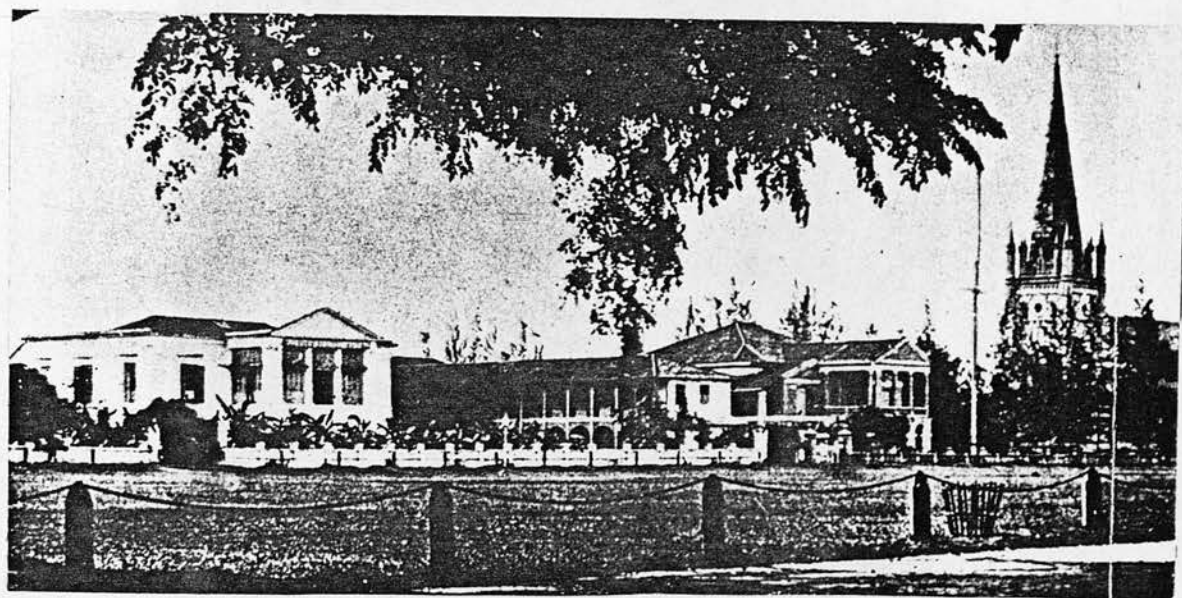


Fig.181 Singapore - The Esplanade (Padang) with St. Andrew's Road in the foreground, showing (L to R) European residences (present site of City Hall) and St. Andrew's Cathedral.



Fig.182 Singapore - Raffles Hotel, Beach Road. Photograph taken during Japanese Occupation (1942-45).

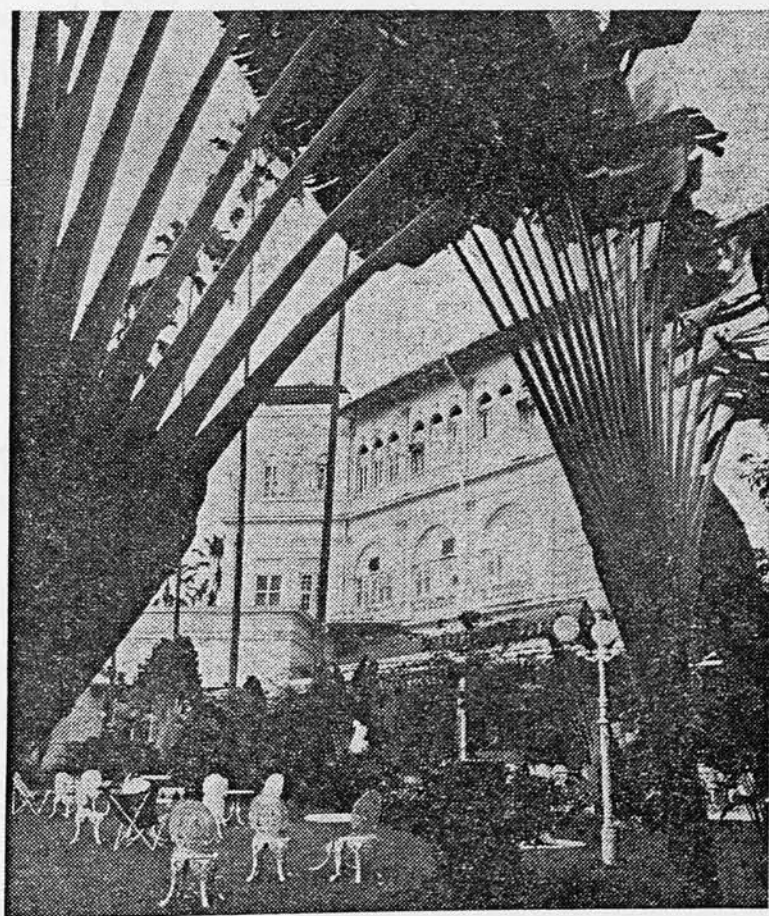


Fig.183 Singapore - Raffles Hotel, Beach Road. Palm Court (1978).

1. INTRINSIC CAUSES

Location

a) Microclimate, Subsoil Conditions and Drainage

Singapore has an equatorial type of climate with high temperatures and relative humidity all the year round, with little variation in mean monthly temperature, and evenly distributed rainfall, often of a convectional nature. The average maximum daily temperature is 30.6 C and relative humidity often exceeds 95 per cent. Monuments built on land fronting onto the Singapore River and to the west of Telok Ayer Street and Beach Road, are constructed on reclaimed land. Subsoil drainage is satisfactory.

Materials

a) Timber and Bamboo

Timber, bamboo and thatch (attap) structures have all but disappeared from Singapore. Only a few traditional Malay kampongs survive and these are destined to disappear in the near future. A number of timber-framed and timber-sheathed structures, designed in the British colonial, neo-classical style, have survived intact, but because of the organic nature of their principal building material, they are liable to rot, insect attack and fire damage.

b) Stone

Limestone and other calcareous rocks are not found on the island of Singapore, but granite and other igneous rocks as well as sandstone and other sedimentary rocks are quarried in the northern and central districts, and are widely used for construction purposes in the historic core of the City of Singapore. In general, the stone chosen for public and commercial buildings is finely grained and has weathered well. Stone of a lesser quality has been used for the construction of many non-European religious structures.

Materials (cont.)

c) Mud and Unbaked Brick

There are no surviving monuments or sites constructed of mud (adobe) or unbaked brick in Singapore.

d) Baked Brick and Terracotta

Extensive beds of alluvial clay occur widely in eastern districts of the island¹ and since the first days of the Settlement's foundation in 1819, baked bricks have been locally manufactured and widely used in the construction of a broad range of structures, such as temples, shrines, mosques, European churches and domestic buildings. In general, brick structures are faced with a protective and ornamental coat of lime stucco and colour-washed. Terracotta and glazed polychrome tiles and sculptures were imported from China for the construction of Chinese temples and shrines. Both groups of material weather well.

e) Binding Materials

Lime mortar is the principal building material used in the construction of stone and baked brick structures. Normally the material weathers well.

f) Metal

In common with many other former British outposts of Empire, the City of Singapore possesses a number of cast-iron structures, locally assembled from pre-fabricated sections shipped out from Glasgow in the holds of merchantmen bound for China and Australia as ballast. Corrosion is an ever present problem because of the high relative humidity and regular maintenance is required to ensure their preservation. Copper and bronze are commonly used in the casting of religious images, temple fittings and furnishings. Gold and silver are used for ornamental purposes. Corrugated iron is replacing many traditional roofing materials.

1. George Brungoole Coleman's 'Map of Town and Environs of Singapore', (drawn by J.R. Tassin from an actual survey by Coleman and printed in Calcutta in 1836), clearly indicates an extensive area of clay pits and brick kilns on the north bank of the Kelang River adjacent to the Bujis' village.

g) Stucco and Other Finishes

Since the foundation of the Settlement in 1819, lime stucco was widely used to protect and ornament structures of baked brick and the poorer qualities of stone. Fungi, mold, moss and lichen cause discolouration of the lime stucco and, where capillary action has caused the crystallisation of salts to take place in the baked brick or stone support, cracking and separation has taken place.

h) Ornamentation

Cast iron, glazed polychrome fireclay and porcelain, concrete and cement sculpture (cast on a steel wire armature), lacquer, gilding, and water and oil-based paints, are widely used to ornament Hindu temples, Chinese temples, shrines, clan halls and shop-houses, European churches and residences, and public buildings and civil engineering works. Cast iron when properly and regularly maintained will last indefinitely, as will glazed polychrome fireclay and porcelain. Concrete and cement sculpture, which has become increasingly popular, is particularly subject to decay in the saline atmosphere of Singapore, corrosion of the supporting ferrous metal armature resulting in cracking, splitting and discolouration. Lacquer endures well in the stable environment of Singapore and is widely used to ornament Chinese structures. Lime and cement stucco-finished structures are regularly colour-washed with water-based paints and quickly weather in the hot and moist environment of Singapore so that they are regularly over-painted. Oil-based paints are used ornamentally to decorate concrete and cement sculpture. Repeated over-painting results in the finer details becoming indistinct and, in extreme instances, disappearing completely.

i) Wall Paintings

There is no indigenous tradition of wall painting in Singapore.

Construction

a) Substructure

Although foundations are traditionally shallow, the mass of the monuments situated within the historic core is, with the exception of more recent public buildings, small. Settlement is therefore not a major problem as subsoil conditions and drainage are generally good.

b) Superstructure

The vast majority of structures are constructed with baked brick or stone load-bearing walls. Timber-framed and post and lintel structures are rapidly disappearing. More sophisticated systems of construction, such as reinforced concrete and steel-framed structures, were introduced in the early twentieth century for larger public buildings and civil engineering works.

2. EXTRINSIC CAUSES

Actions of Man

a) Lack of Maintenance

Lack of maintenance is not a problem in Singapore. On the contrary, over-zealous maintenance has led to the often drastic alteration of many monuments.

b) Abandonment and Squatting

Abandonment and squatting are not problems in Singapore.

c) Robbery and Vandalism

Robbery and vandalism are not problems in Singapore.

d) Alteration and Demolition

Alteration and demolition are major problems. Structures in regular use are often altered and, where adaptation is not readily achieved, demolished for redevelopment. In some instances, such as the conversion of the Telok Ayer Market to a food centre by the Urban Redevelopment Authority (URA), alteration has extended the useful life of the structure, but in others, such as the Raffles Institution, this has not proved to be possible and demolition has taken place. This question is discussed in more detail in sub-section (i) Urbanisation and Encroachment.

e) Faulty Restoration and Repair

Because of the strictly limited legal powers of the Preservation of Monuments Board (PMB) and its lack of any full-time professional staff trained in the science of conservation, there is inadequate supervision over the restoration and repair of privately-owned monuments and publicly-owned monuments in the care of the Public Works Department. Consequently, proper standards are not enforced and the integrity of the monument is diminished as a result of clumsy interventions.

f) Unauthorised Excavations

Unauthorised excavations are not a problem in Singapore

g) Customary Use

The burning of joss and incense results in the deposit of a surface film of carbon on the ceilings and walls of Chinese temples, shrines and clan halls. Although not injurious it does cause discolouration. Oil lamps have been replaced with electric lighting in the majority of temples, shrines and mosques, and are not a cause of decay.

h) Change of Use

Unsympathetic changes of use necessitating alterations to the fabric of structures are a major problem in Singapore. So too are intensifications of use, such as the increasing of the number of bedrooms at the Raffles Hotel for example, which require alterations and extensions. Changes of land use, as opposed to building use, may cause whole areas to become economically obsolete, such as has occurred in the Chinatown district of the historic core of the City of Singapore, resulting in clearance and, if unchecked, the disappearance of a whole class of building type, in this case the shop-house, as has already happened to the Malay kampong. This question is discussed in more detail in sub-section (i) Urbanisation and Encroachment.

i) Urbanisation and Encroachment

Over the last decade more than one hundred and twenty hectares of land in the historic core of the City of Singapore have been cleared of slum

housing and squatter settlements. Beginning in 1967, the Government began to sell off large tracts of land to private developers. Successful bidders were required to deposit only twenty per cent of the purchase price, the remainder to be paid, interest-free, over the next twenty years. Furthermore, developments when completed were exempted from all development charges and property tax was levied at only one-third of the normal rate for a period of twenty years. Between 1967 and 1969, forty-nine sites totalling thirty hectares were thus disposed of for the construction of hotels (1967), offices (1968) and entertainment centres, housing and shopping facilities (1969). Thereafter land sales were discontinued until 1974 because of shortages of skilled labour and materials in the construction industry.¹ Such is the scale of modern development that the City of Singapore's historic core is being completely overwhelmed. For example, I.M. Pei's Overseas-Chinese Banking Corporation (OCBC) Building, a structurally-innovative and architecturally exciting structure, can be seen from most places but particularly from the Padang, which it completely dominates, ruining the formerly well-ordered skyline. Unless immediate action is taken to preserve and protect the few surviving examples of the island's heritage of immovable cultural property then it is unlikely that they will survive beyond the next decade.

j) Fire Damage

Fire damage is a major cause of decay of timber structures. Compliance with fire regulations represents a considerable problem with implications for the architectural and historical character of the structure, the enforcing authority not differentiating between their application to a newly-built six-storey office development and a mid-nineteenth century two-storey dwelling.

k) Pollution

Because of its location, the City of Singapore is relatively pollution-free and does not give cause for concern.

1. Barker, E.W. Opening Address to the International Seminar on Urban Land Use Policy, Taxation and Economic Development, held at Singapore, 16-19 December 1974, in Wong, J.(Ed.), 'Cities in Asia', University of Singapore Press, Singapore, 1976, pp.13-15.

Actions of Man (cont.)

1) War Damage

War damage during the invasion of Singapore in 1942 was minimal.

Occasional Actions of Nature

a) Earthquakes and Landslides

Although the island of Singapore is located close to the so-called 'transasiatic seismic zone', earthquake activity is negligible. Tremors felt during the nineteenth century have been attributed to the eruption of Krakatoa.

b) Volcanic Activity

Volcanic activity in the immediate neighbourhood of the island of Singapore is negligible.

c) Flooding

During the Southwest Monsoon (June-September), squalls and thunderstorms, known locally as 'Sunatras', occur causing flash floods and occasional landslides.

d) Tsunamis

The island of Singapore is protected by surrounding land masses and there has been no recorded instance of a Tsunami in recent history.

e) Typhoons and Cyclones

Because of the island of Singapore's equatorial position, it lies outwith the typhoon and cyclone belts.

Prolonged Actions of Nature

a) Precipitation, Relative Humidity, Temperature and Wind.

Precipitation, relative humidity and temperature, are the three principal physical causes of decay (rising dampness, wet rot and

corrosion, etc.), as previously noted under Section 1 : Intrinsic Causes of Decay, but over prolonged periods other changes of a chemical, micro-biological and biological nature also occur. The effects of these are noted in the following sub-sections (b) to (g). Physical erosion by windborne particulates does not present a problem, wind damage being an occasional action of nature related to the incidence of particularly severe 'Sumatras.'

b) Fungi and Mold

Fungi and mold disfigure a number of monuments constructed of hygroscopic materials (timber, lime stucco, etc.). Because of regular maintenance the problem is minimal.

c) Moss and Lichen

Moss and lichen also disfigure a number of monuments. Because of regular maintenance the problem is minimal.

d) Plants and Trees

Plants and trees flourish in the hot and wet conditions prevailing on the island of Singapore all the year round, and a number of monuments, such as the Tamil Mosque in Telok Ayer Street, St. Andrew's Cathedral in St. Andrew's Road and St. Gregory's Armenian Church in Hill Street, all have flourishing vegetation on their roofs. Because of regular maintenance the problem is minimal and there is little evidence of structural damage as a result of vegetational growth.

e) Insects

Insect infestation is the principal cause of decay of timber and timber-based materials. Drywood termites (Kalotermitidae) and other free-flying pests, such as powder-post beetles (Lyctidae and Bostrychidae), make their homes within the timber attacked. Soil or subterranean termites (Hodotermitidae, Rhinotermitidae and Termitidae) are more numerous and widespread, but need to maintain contact with the ground. Both problems are widespread in the island of Singapore because of its uniformly high rates of relative humidity.

f) Birds and Bats

Nesting birds cause physical damage by burrowing. Perching birds cause chemical damage and disfigurement of monuments. Because of regular maintenance the problem is minimal. Bats are not a significant cause of decay and damage is negligible.

g) Animals

Animal damage is negligible.

5. CONSERVATION POLICY AND PROGRAMMES

1. HISTORICAL EVOLUTION OF GUIDING PRINCIPLES

Because of the island's paucity of archaeological sites, Singapore was largely ignored by the British colonial administration and it is only in the last decade that the Government of the Republic of Singapore has taken steps to preserve and protect its diverse cultural heritage. Prior to the enactment of the Preservation of Monuments Act, No.45 of 1970, under section 3 of which the Preservation of Monuments Board was created, the responsibility for conserving Singapore's cultural heritage lay with the National museum, established under the provisions of the National Museum Ordinance, No.30 of 1957, in accordance with the regulations laid down under the provisions of the National Museum (Management and Control) Rules, No.57 of 1965. In consequence, the National Museum was restricted to the collection, preservation, documentation and display of movable cultural property only, and the conservation of Singapore's heritage of monuments was largely neglected.

2. POLICY AND PROGRAMMES

National Conservation Policy

The Republic of Singapore does not have a national conservation policy; indeed its attitude towards conservation is unequivocally negative. In the headlong rush to capitalise on rising land values, generated by the island's attraction as an alternative business centre to Hong Kong, following recent increases in land values and rents in the Colony, the historic core of the City of Singapore, which survived intact until 1960, is being sacrificed in the name of progress and economic growth. The attitude of the Government is succinctly stated in the following statement by the High Commissioner to the United Kingdom, His Excellency Yong Nyuk Lin :

'...To increase the welfare and standard of living of our people, our Government has methodically proceeded to demolish the old in order to build anew. If we are to progress and improve, the old needs to give way to the new...' ¹

1. Wright, T. 'Saving Singapore', in Architectural Review, September 1976, pp.178-179.

National Conservation Policy (cont.)

The government agency most responsible for change in the historic core of the City of Singapore, the Urban Redevelopment Authority (URA), has as its principal objective '...to comprehensively clear our slums in keeping with our aspirations as a major trade and transportation centre...'.¹

Conservation Programmes

Such conservation areas as have been designated, such as the Emerald Hill Road Area, are situated outwith the historic core of the City of Singapore where land values are highest, and although the Telok Ayer Market has been successfully converted to a new food centre, the future of such celebrated structures as the Raffles Hotel on Beach Road near to St. Andrew's Cathedral remains uncertain. The renovation of the Tong Chang Medical Institute and the Thian Hok Keng Temple, both of which are registered monuments, is being undertaken by the Preservation of Monuments Board (PMB). The former Urban Renewal Department (URD), predecessor of the Urban Redevelopment Authority (URA), pursued a 'beautification' policy in the historic core of the City of Singapore, landscaping vacant sites. The undernoted sign appeared on a landscaped site in Chulia Street in 1974 :

'...This site was burnt out by fire and the landscaping here designed to blend with the shell of the burnt structure is devised as a method to put to proper use such a site for beautification of our City and for the enjoyment of our citizens whilst waiting for comprehensive proposals to be built here ultimately. It is another effort of the Urban Renewal Department to create more amenities and beautification schemes for Singapore...'.²

Research Programmes

In the past, the National Museum has participated in several archaeological surveys and excavations in collaboration with the National Museum, Kuala Lumpur, and the University of Malaysia. Recent research has concentrated on legislation and manpower resources.³

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1. Wright, T. Op.Cit. pp.178-179.
 2. Noted by author, 27 August 1974.
 3. SEAMEO, 'ARCAFA Report of Task Force on Manpower in Archaeology', ARCAFA Project Development Office (APDO), Phnom Penh, 1976, pp.51-5.

3. INTERNATIONAL TECHNICAL COOPERATION

International Governmental Agencies

The Republic of Singapore is a Member State of the United Nations (UN) and its sister agency, the United Nations Educational Scientific and Cultural Organisation (UNESCO). To date, however, the Republic of Singapore has not been the subject of any programme of technical assistance in the field of conservation of cultural property. The Republic of Singapore is also a Member State of the South-East Asian Ministers of Education Organisation (SEAMEO), and in January 1976 it hosted the SEAMEO Special Conference convened to discuss the course of action to be followed in connection with the proposed Applied Research Centre in Archaeology and Fine Arts (ARCAFA) at Phnom Penh, in the aftermath of the events of April 1975. The outcome of the conference was the establishment of the SEAMEO Project in Archaeology and Fine Arts (SPAFA), but whereas the ARCAFA Project was conceived as a regional project to be implemented through a regional centre in Phnom Penh, the SPAFA Project was conceived as a regional project to be implemented through regional sub-centres in Indonesia (Borobudur); Malaysia (Kuching, Kuala Lumpur and Malacca); Philippines (Manila) and Thailand (Bangkok and Satahip). The SPAFA Project Development Plan does not exclude the establishment of a regional sub-centre in the Republic of Singapore, but its exclusion therefrom was necessitated by the absence of any definite Government proposals.¹

International Non-Governmental Agencies

The Republic of Singapore does not have a national committee for either the International Council of Museums (ICOM) or the International Council of Monuments and Sites (ICOMOS).

1. SEAMES, 'Proposed Development Plan for SEAMEO Project in Archaeology and Fine Arts (SPAFA)', SEAMES, Bangkok, July 1976, pp. 1-3.

FIG.184 SINGAPORE - CAUSES OF DECAY

INTRINSIC CAUSES	LOCATION	Microclimate	●
		Subsoil Conditions	●
		Drainage	
	MATERIALS	Timber and Bamboo	●
		Stone	
		Mud and Unbaked Brick	
		Baked Brick and Terracotta	
		Binding Materials	
		Metal	●
		Stucco and Other Finishes	●
		Ornamentation and Wall Painting	●
	CONSTRUCTION	Substructure	
		Superstructure	
EXTRINSIC CAUSES	ACTIONS OF MAN	Lack of Maintenance	
		Abandonment and Squatting	
		Robbery and Vandalism	
		Alteration and Demolition	●
		Faulty Restoration and Repair	●
		Unauthorised Excavations	
		Customary Use	
		Change of Use	●
		Urbanisation and Encroachment	●
		Fire Damage	
		Pollution	
		War	
	OCCASIONAL ACTIONS OF NATURE	Earthquakes and Landslides	
		Volcanic Activity	
		Flooding	●
		Tsunamis	
		Typhoons and Cyclones	●
	PROLONGED ACTIONS OF NATURE	Precipitation	●
		Relative Humidity	●
		Temperature	●
		Wind	●
		Fungi and Mold	
		Moss and Lichen	●
		Plants and Trees	●
		Insects	●
		Birds and Bats	●
		Animals	

1. LEGISLATION

Comprehensive legislation '...to preserve for the cultural benefit of the nation, monuments of historic, traditional, archaeological, architectural or historic interest...' was not introduced in Singapore until 1971, when the Preservation of Monuments Act, No.45 of 1970 was enacted.

Definitions

Under section 2(1) of the Act the term 'monument' includes :

- 'a) any building, structure, erection or other work whether above or below the surface of the land, any memorial, place of internment or excavation, and any part or remains of a monument; and
- b) any land comprising or adjacent to a monument which, in the opinion of the Board, is reasonably required for the purpose of maintaining the monument or the amenities thereof, or for providing or facilitating access thereto, or for the exercise of proper control or management with respect thereto,

which is considered by the Board to be worthy of preservation by reason of its historic, traditional, archaeological, architectural or artistic interest.'

The term 'Board' means the Preservation of Monuments Board constituted under section 3 of the Act.

The term 'Chairman' means the Chairman of the Preservation of Monuments Board.

The term 'Fund' means the Preservation of Monuments Fund established under section 14 of the Act.

Preservation Orders

Under section 8(1-4) of the Act, the Minister may, from time to time, on the advice of the Board, by notification in the Gazette, make an order, known as a 'preservation order', placing any monument under the protection of the Board. The order comes into immediate effect and remains so until revoked by the Minister or '...otherwise ceases to have effect..

Preservation Orders (cont.)

A copy of the order, together with a notice stating the effect thereof, must be served upon the owner or occupier of the monument, and any person who objects to the making of the order may submit his objections in writing to the Minister within three months of its publication, calling upon the Minister to revoke the order. The Minister may then revoke the order or, alternately, confirm it, in which case his decision is final. All monuments subject to such an order are registered.

Effect of Preservation Order

Where a preservation order is in force, the monument to which it relates may not, without the written consent of the Board (but which may not be 'unreasonably withheld'), be demolished, removed, altered or renovated, or have any addition made except in case of '...urgent and immediate necessity for the safety of persons or property...'.¹ However, where a preservation order is made in respect of any structure that appears to the Board to be occupied as a dwelling-house and that structure has not been vested in the Board or the Government, as the case may be, then, if such structure is not acquired under the provisions of the Land Acquisition Act, No.41 of 1966, within the period of one year from the date of notification, the preservation order ceases to have effect in relation to that structure.²

A preservation order binds all subsequent owners and occupiers of the land which is the site of the monument, operating as if it were a charge on the land, regardless of whether that land is registered or unregistered.³

Any person who attempts to transfer, assign, demise or otherwise deal with any monument, or who demolishes, removes, alters, renovates or adds to the monument without the consent of the Board is guilty of an offence under section 9(3) of the Act, and is liable to a fine not exceeding one thousand Singapore dollars.

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1. Preservation of Monuments Act, No.45 of 1970, section 9(1).
 2. Op Cit., section 10.
 3. Op Cit., section 9(2).

Exportation and Importation of Antiquities

There are no provisions in the 1971 Act controlling the exportation and importation of antiquities - even though Singapore is one of the principal markets for Southeast Asian antiquities exported both legally and illegally from Thailand, Vietnam, Laos, Khmer Republic and Indonesia. Customs duty may be payable in respect of certain declared items. It is only in respect of rare species of indigenous fauna and flora that Singapore has entered into a number of individual bilateral agreements.¹ Further legislation to control the illicit import, export and transfer of cultural property is presently being considered.

Consultative Committee

Where the Board is of opinion that it is necessary for the purpose of the Act, to constitute a committee, the Board may, with the approval of the Minister, constitute a committee, which shall be known as the Consultative Committee. The Board may, under section 13(1), request the Committee to advise it on the value of the premises to be preserved, and on the manner in which the value of the premises is to be determined, and on the manner in which the value of the premises is to be determined, and on the manner in which the value of the premises is to be determined.

Penalties

Under section 13(1-2), the Board may, with the approval of the Minister, make such rules for the carrying out of the 1971 Act as it may deem necessary, and such rules may be made.

1. ICOM, 'Proceedings of the ICOM Meeting of Experts on the Protection of Cultural Property in Southeast Asia', Malacca, 12-13 December 1972, ICOM, Kuala Lumpur, 1974, pp.

Maintenance of Monuments

Under section 11(1-5), the Board may, if it thinks fit, at the request of the owner of a monument, undertake or contribute towards the cost of '...preserving, maintaining or managing the monument or to the making of additions thereto...', subject to the approval of the Board and the Competent Authority under the provisions of the Planning Ordinance, No.12 of 1959, and upon such conditions as the Authority may impose.

The term 'maintenance' includes the fencing and repairing of a monument and the doing of any act or thing which may be required for the purpose of repairing the monument or protecting it from decay and injury.

For the purposes of maintaining a monument the Board has the right of access for itself or its employees for the purposes of '...inspecting it and doing all acts and things necessary for the maintenance thereof...'. All expenses incurred by the Board in maintaining a monument are defrayed out of monies provided by the Preservation of Monuments Fund.

Compulsary Acquisition

Where the Board is desirous of acquiring, for the purposes of the Act, '...any land, site or monument...', the subject of a preservation order made under section 8 of the Act, which cannot be acquired by agreement, the Board may, under section 12(1), request the President who may, if he thinks fit, direct the acquisition of such land, site or monument, under section 5 of the Land Acquisition Act, No.41 of 1966, '...for a work or an undertaking which is of public interest...'. In such cases the value of the premises is deemed to be their market value at the date of the making of the preservation order.

Penalties

Under section 15(1-2), the Board may, with the approval of the Minister, make such rules for the carrying out of the 1971 Act as it deems necessary, and such rules may :

- a) prescribe that any act or omission in contravention of the provisions of any rule, shall be an offence; and
- b) provide for the imposition of penalties for such offences which penalties shall not exceed a fine of one thousand (Singapore) dollars.'

Penalties (cont.)

Any person who wilfully defaces, damages or otherwise interferes with any monument is guilty of an offence under section 17 of the 1971 Act, and is liable on conviction to a fine not exceeding five thousand Singapore dollars or imprisonment for a term not exceeding six months, or both such fine and imprisonment.

Exemptions

On the advice of the Board, the Minister may, under section 16 of the 1971 Act, by order published in the Gazette, exempt any monument '...from all or any of the provisions...' of the Act, '...or the rules made thereunder...'.
The Board was established under section 2(1) of the 1971 Act with the following objectives:

2. ADMINISTRATION

The responsibility for conserving Singapore's heritage of archaeological sites and architectural monuments is shared between the Ministry of Culture and the Ministry of Land and National Development; the former being responsible for the National Archive, the National Library, and the National Museum; the latter being responsible for the Urban Redevelopment Authority, the Planning Department, the Public Works Department, and the Preservation of Monuments Board. The nature of the relationship between each of these agencies is unclear and their activities are often contradictory.

National Museum

The National Museum has the following responsibilities :

- a) 'to collect, preserve and document the cultural properties pertaining to art, history and anthropology of Southeast Asia';
- b) 'to display these collections in an educative way, to promote studies and research in these fields'; and
- c) 'to contact (sic) activities promoting a better understanding of our cultural heritage, specially for the youth'.¹

1. ARCAFA Project Development Office (APDO), 'Report of Task Force on Manpower in Archaeology in the SEAMEO Region', Appendix D (F), Phnom Penh, Aug-Oct. 1973, pp.17-20.

National Museum (cont.)

The National Museum also has an important library and workshop for the conservation and restoration of the collection.

The preservation of Singapore's important historical buildings, so that the hectic pace of urban development will not result in their complete disappearance, is one of the Museum's principal concerns, and the Director is responsible for advising the Preservation of Monuments Board on this matter.

Preservation of Monuments Board

The Preservation of Monuments Board was established under section 3(1) of the 1971 Act with the following objectives :

- 'a) to preserve monuments of historic, traditional, archaeological, architectural or artistic interest;
- b) to protect and augment the amenities of such monuments;
- c) to stimulate public interest and support in the preservation of such monuments; and
- d) to take appropriate measures to preserve all records, documents and data relating to such monuments.¹

The Board consists of a Chairman and not less than ten and not more than seventeen other members appointed by the Minister, each of whom may hold office for such period as the Minister may decide, but not exceeding a period of two years. However, each is eligible for re-appointment.

Under section 6(1) of the 1971 Act the Board is empowered to do '...all lawful acts necessary in order to further its objects...', and may :

- 'a) make periodic inspections of monuments, advise on, supervise, control and effect alterations, repairs, renovations or construction of any kind thereto, whether by the Board itself or by the owner or occupier thereof, to ensure the better preservation thereof;

1. Preservation of Monuments Act, No.45 of 1970, section 5.

- b) receive donations, grants, gifts of movable or immovable property from any source and raise funds by all lawful means;
- c) contribute by grant or loan towards the expenses incurred or to be incurred in the repair and maintenance of a monument to ensure its proper preservation;
- d) acquire compulsorily or by agreement, whether by purchase, lease or otherwise any land, site or monument appearing to the Board to be of outstanding historic, traditional, archaeological, architectural or artistic interest;
- e) dispose of any lands, sites and monuments acquired by the Board as and when it deems fit to do so;
- f) appoint committees consisting of persons who may or may not be members of the Board and delegate to such committees such of its powers and functions as the Board may determine; and
- g) regulate and control public access to monuments and charge fees for such access.'

Furthermore, under section 3(3) of the 1971 Act, the Board may enter into contracts, may sue and be sued in its corporate name, and may acquire, purchase, lease, take, hold and enjoy movable and immovable property of every description, and may sell, exchange, convey, assign, surrender and yield up, mortgage, demise, reassign, transfer or otherwise dispose of or deal with any movable and immovable property vested in it upon such terms as to it shall seem fit.

The Board is empowered under section 6(2) of the 1971 Act to appoint such officers and servants as may be necessary to assist it in carrying out its functions, and any person specifically authorised in writing by the Board may, under section 7(1) of the 1971 Act, after giving not less than fourteen days notice in writing to the occupier of his notice to do so, enter for the purposes of investigation at all reasonable times upon any land which the Board may have reason to believe contains any monument and may make excavations on the land for the purpose of examination, provided that :

- 'a) no person shall under any power conferred by this sub-section enter any dwelling-house or any building, park, garden, pleasure ground or other land used for the amenity or convenience of a dwelling-house except with the consent of the occupier; and

Preservation of Monuments Board (cont.)

- b) no excavation shall be made under the power conferred by this subsection except with the consent of every person whose consent to making of the excavation would, apart from this subsection, be required.¹

At the present time (1974) the permanent staff of the Board is restricted to a full time Secretary and a typist. The thirteen-member Board, which is voluntary and unpaid, comprises representatives of government, industry, commerce and education.

The Board operates through three committees : the Finance Committee; the Technical Committee; and the Research, Documentation and Publicity Committee; the terms of reference of which are as follows :

Finance Committee

- 'a) to raise funds and receive donations, grants and gifts of movable and immovable property;
- b) to administer the Preservation of Monuments Fund; and
- c) to consider applications for financial assistance.¹

Technical Committee

- 'a) to advise and give technical assistance and guidance upon the maintenance of monuments, and to ensure better standards of maintenance;
- b) to consider applications to effect demolitions, alterations, repairs or renovations of monuments; and
- c) to facilitate implementation of the Board's decisions.²

Research, Documentation and Publicity Committee

- 'a) to investigate and recommend monuments to be placed under the protection of the Board;
- b) to initiate and assist wherever possible in the documentation and recording of data relating to monuments in cooperation with the relevant authorities; and

1. SEAMES, 'Proceedings of the Preparatory Conference on the Restoration and Animation of Historical Sites', Phnom Penh, 4-8 December 1972, pp.419-20.
2. SEAMES, Op Cit.

Preservation of Monuments Board (cont.)

- c) to stimulate public interest and support in the preservation of monuments.¹

Monuments recommended for preservation by the Research, Documentation and Publicity Committee are selected upon the following criteria : historical interest, architectural merit, traditional and artistic significance, tourist attraction, and environmental planning. A preliminary list of forty six monuments and sites was published in 1972, of which fourteen were subsequently protected by the serving of preservation orders under section 8(1) of the 1971 Act.²

Planning Department

The first master plan for Singapore was adopted in 1958. Three years later, the newly independent government sought the assistance of the United Nations in the preparation of a revised master plan. Published in 1965, the revised plan assumes that by the 1990s, Singapore's population may reach three million, and may become stabilised at approximately four million in the twenty-first century. The need for full employment is stressed in the plan and so, apart from housing, priority is given to the development of the port, the international airport, industrial estates and, most importantly from the point of view of conservation, the central area.

Although the written statement to the 1965 revised master plan listed thirty-two monuments and sites of architectural and historic interest, some of the most important of these, most notably the Raffles Institution³, have since been demolished.

Responsibility for implementing the 1965 revised master plan rests with the Planning Department, which is under the jurisdiction of the Ministry of Land and National Development. It is assisted in this task by the Chief Building Surveyor's Department; the Master Plan Committee; and the Development Control Committee.

1. SEAMES, Op Cit.

2. As of August 1976.

3. Demolished to make way for construction of the Raffles Centre, a one hundred million Singapore dollar complex of shops, hotels and nightclubs, completed in 1972.

Urban Redevelopment Authority (URA)

The principal agency for change in the city's central area, which corresponds with the historic core of the settlement established by Raffles in 1819, is the Urban Redevelopment Authority (URA).

Until 1974 the URA was known as the Urban Renewal Department (URD) and formed part of the Housing Development Board (HDB), in which capacity it concentrated upon the acquisition and disposal of easily developed sites. Since becoming independent of the HDB the renamed URA has become increasingly involved in the clearance and redevelopment of the city's central area.

What little urban design work that the URA has undertaken in the central area has generally been of a high standard, the conversion of the Telok Ayer Market in Telok Ayer Street to a food centre being an outstanding example. On the north bank of the Singapore River, height controls have been successfully enforced around the Esplanade (Padang) preserving the scale of this outstanding area of public open space. On the south bank, however, all attempts to enforce height controls have been abandoned, and massive commercial redevelopment along Collyer Quay has completely obliterated the waterfront skyline. The Overseas Chinese Banking Corporation (OCBC) Building, designed by I.M. Pei, is the most recent addition to the area.

The URA is presently (1976) engaged in the process of designating a number of conservation areas reflecting the 'cultural aspirations' of each of the city's ethnic communities.¹ To date, one conservation area, Emerald Hill, has been designated outwith the conservation area.

1. At the time of writing details remain confidential because owners stand to lose the substantial financial benefits to be gained from compulsory acquisition at market value under the provisions of the Land Acquisition Act, No.41 of 1966.

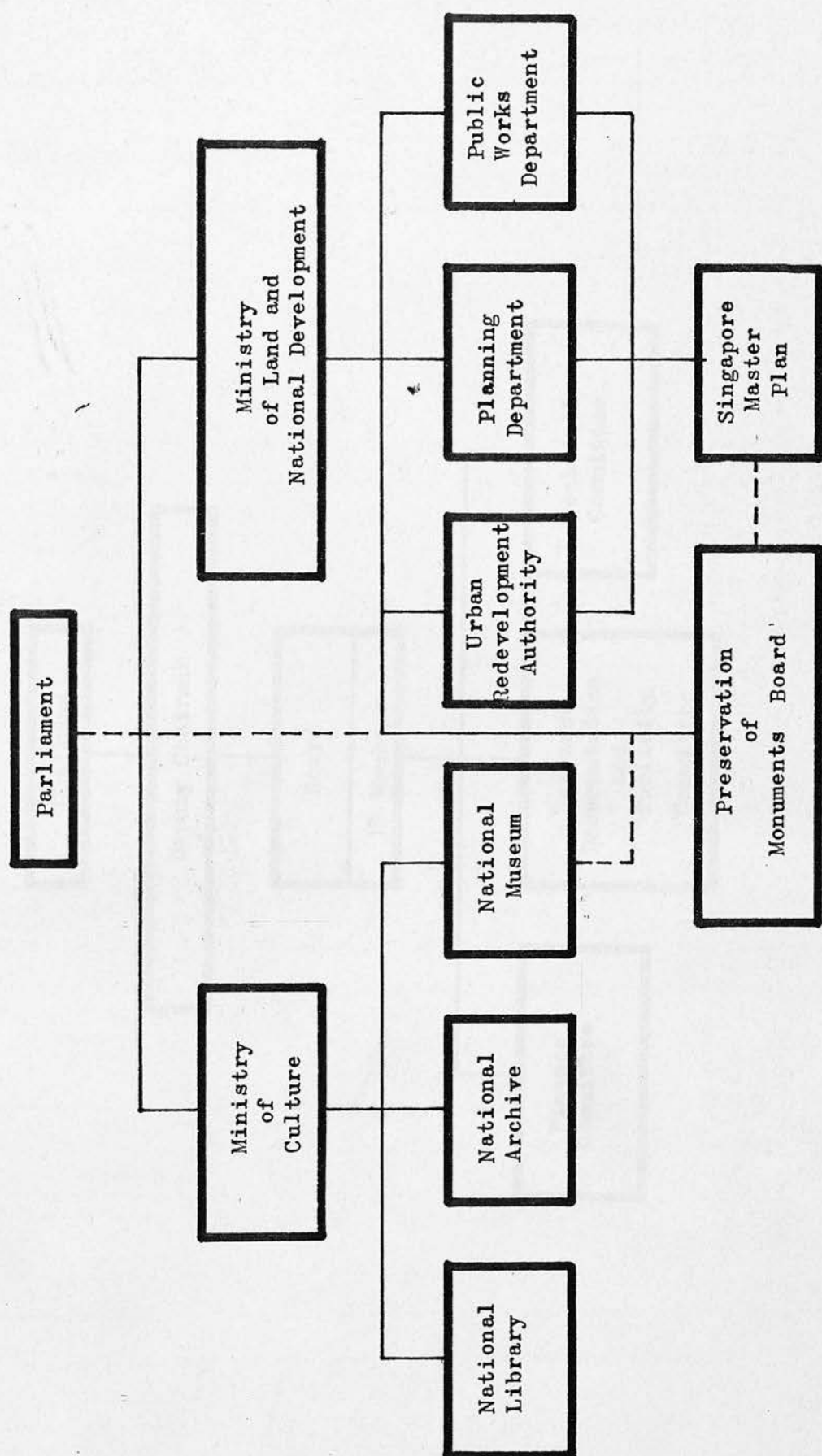


Fig. 185 Singapore - National Conservation and Related Agencies (1978)

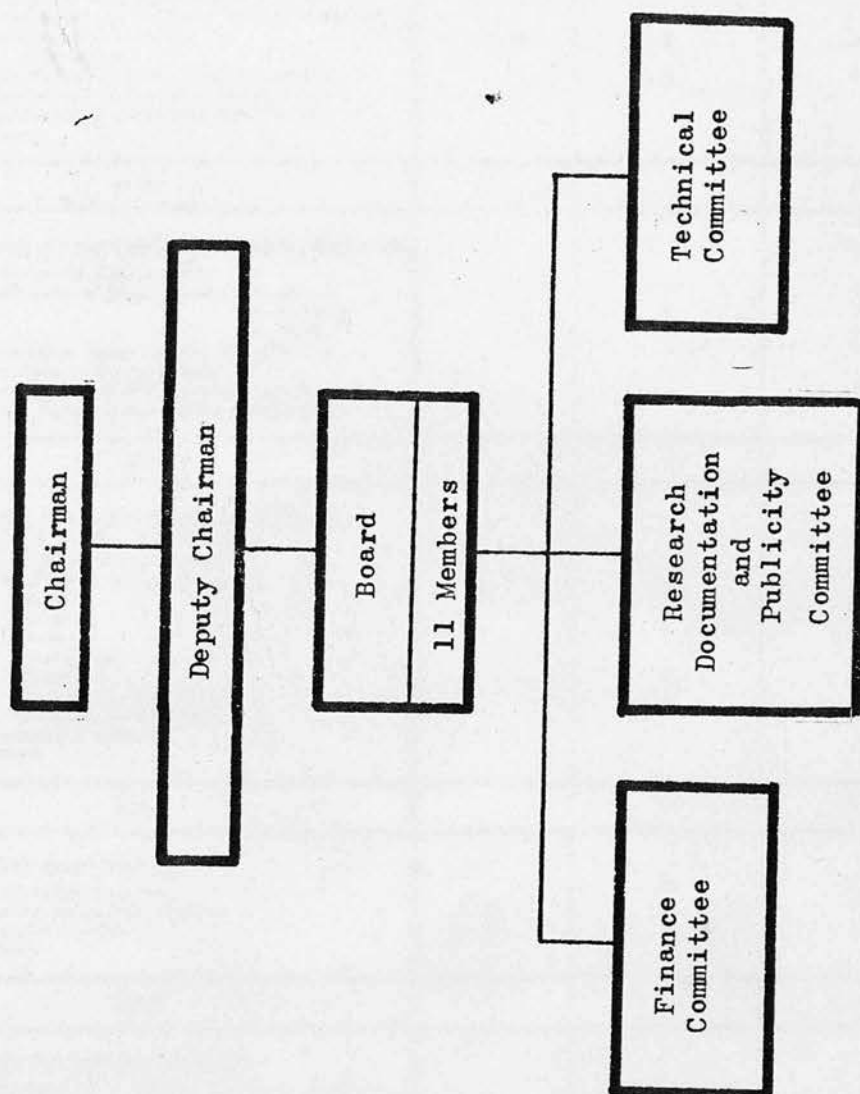


Fig. 186 Singapore - Preservation of Monuments Board, Singapore.

FIG.187 SINGAPORE - NATIONAL CONSERVATION STAFF RESOURCES (1973)¹

ARCHAEOLOGICAL STAFF CLASSIFICATION	STAFF AND EMPLOYMENT DATA		
	(1) Present Staff	(2) Additional Staff needed now	(3) Additional Staff needed in 3 yrs.
<u>Professional Staff</u>			
1. Administrators/Managers	.5	1	1
2. Historians	.1		
3. Archaeologists			
4. Philologists, Epigraphists & Linguists			
5. Ethnologists & Cultural Anthropologists			
6. Museologists/Curators	1.40	3	3
7.8.9. Librarians			
10. Architects of Historical Monuments		1	1
11. Excavation/Restoration Technicians			
12. Monument/Object Dating Specialists			
13. Others			
TOTAL	2	5	6
<u>Monument Excavation/Restoration/Conservation</u>			
1. Excavation Specialists			
2. Restoration Specialists: a. Stone		1	1
b. Masonry		1	1
c. Wood		1	1
3. Monuments Conservation Specialists		1	1
4. Draftsmen & Topographers			
5. Photographers & Photo-Interpreters			1
6. Other Specialists such as engineers, etc			
TOTAL		4	5
<u>Cultural Property/Skeletal Excavation and Restoration/Conservation</u>			
1. Excavation Specialists			
2. Restoration Specialists:			
a. Stone		1	1
b. Metal		1	1
c. Wood		1	1
d. Skeletons			
e. Textiles		1	1
f. Documents, Paintings		1	1
g. Pottery & Ceramics		1	1
3. Draftsmen & Artists			
4. Others			
TOTAL		6	6
<u>Internal Supporting Staff</u>			
1. Exhibition Experts		1	1
2. Public Relations Experts	1	1	1
3. Trained Guides	1	1	2
4. Others			
TOTAL	2	3	4
<u>Outside Specialists Resources</u>			
1. Geographical & Aerial Survey & Analysis			
2. Geological Survey & Analysis			
3. Public works Specialists (lab. technician draftsmen etc.)		1	1
4. Climatological Survey Experts			
5. Archaeological Legislation Experts			
5. Others			
TOTAL		1	1

1. ARCAFA Project Development Office (APDO), 'Report of Task Force on Manpower in Archaeology in the SEAMEO Region', SEAMEO, Phnom Penh, October 1973 (Table 6).

3. FINANCE

The preservation and restoration of monuments in Singapore is financed largely by private donations and grants - the Government rarely intervening.

Preservation of Monuments Fund

Under section 14(1) of the 1970 Act, the Preservation of Monuments Board was empowered to establish and maintain a fund, known as the Preservation of Monuments Fund, into which all monies raised '...by all lawful means...' under section 6(1) of the 1970 Act, together with all donations, grants and gifts, must be paid. The Board is deemed to be an institution of a public character within the meaning of section 37(2)(c) of the Income Tax Ordinance, and the income accruing to the Board from the Fund is exempt from income tax. The payment of any property tax, imposed under the provisions of the Property Tax Ordinance, No.72 of 1960 may also be wholly or partially waived at the discretion of the Comptroller of Property Tax in respect of any monument owned by the Board, and the provisions of the Estate Duty Ordinance do not apply to any monument that is the subject of a preservation order made under section 8(1) of the 1970 Act.¹

The principal areas to which the income of the Fund is directed are as follows :

- 'a) cost of repairs and maintenance to monuments to ensure their proper preservation;
 - b) provision of financial assistance in needy cases;
 - c) acquisition of monuments (should this be necessary); and
 - d) recurrent expenses of the Board.'
- 2

From time to time, the Minister may supplement the income of the Board by granting '...such sums as the Minister may determine out of monies provided by Parliament...', under section 14(2) of the 1970 Act, but the principal responsibility for fund-raising falls upon the shoulders of the Chairman of the Board and members of the Finance Committee, whose members are selected accordingly.

1. This exemption extends to monuments in private ownership.
2. SEAMES, Op Cit. pp. 418-424.

Preservation of Monuments Fund (cont.)

To date, only the interest accruing to the Board from Government monies invested in securities or deposited in a bank, in accordance with section 14(3) of the 1970 Act, and monies raised from private sources by the Board, have so far been used for the purchase, restoration and preservation of monuments.¹

Private Foundations

The financing of repairs, restorations, alterations, extensions and rebuildings of monuments is also undertaken by private foundations such as the Hindu Endowment Trust. Individual caste groups, such as the Chettiars, and clan organisations, such as the Hokkien Huay Kuan, also directly fund such works on an individual basis. The extent of such financing remains a matter of conjecture, however, as no figures are published.

Institutional and Commercial Benefactors

The extent of institutional and commercial support also remains a matter of conjecture, but the Shaw Brothers, the international film and entertainment corporation, are acknowledged to be among the major benefactors in the Republic of Singapore.

4. EDUCATION AND TRAINING

There are no training courses in archaeology, museology or architectural restoration in the Republic of Singapore, and trained specialists are few. Thus the Preservation of Monuments Board (PMB), the principal conservation agency, is forced to import Taiwanese and Indian specialists to oversee restoration projects. The need for a six to twelve month course in architectural conservation is particularly pressing.

Training Abroad

Whilst acknowledging the value of overseas training, the National Museum has expressed certain reservations regarding the appropriateness

1. SEAMES, 'Report of the SEAMEO Project in Archaeology and Fine Arts (SPAFA)', SEAMEO, Bangkok, July 1976, p.25.

Training Abroad (cont.)

of the training given in Europe and the United States of America to the conditions of Singapore, and the need to familiarise returning students with local problems, objectives and requirements.

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